Remedial Action Report

Willow Brook and Willow Brook Pond
United Technologies Corporation
Pratt & Whitney
East Hartford, CT

November 2002
Volume 1 of 5
Text, Tables, Figures

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An Employee Owned Company
Comm. No. 88UT002

REMEDIAL ACTION REPORT
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UNITED TECHNOLOGIES CORPORATION
PRATT & WHITNEY
EAST HARTFORD, CT

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EXECUTIVE SUMMARY

WILLOW BROOK AND WILLOW BROOK POND
REMEDIAL ACTION REPORT
UNITED TECHNOLOGIES CORPORATION

United Technologies Corporation (UTC)/Pratt & Whitney Division retained Loureiro Engineering Associates, Inc. (LEA), to design and perform the remediation of polychlorinated biphenyl (PCB) contaminated soil and sediment within and immediately surrounding Willow Brook and Willow Brook Pond at the UTC/Pratt & Whitney manufacturing facility in East Hartford, Connecticut. The project was undertaken to satisfy the requirements of Consent Order SRD-130. The following report has been prepared in accordance with the requirements of paragraph B.1.e of Consent Order SRD-130 and presents data supporting the attainment of the remedial action objectives for the project. The remediation activities were initiated on July 2, 2001 and were completed on August 31, 2002.

In addition to satisfying the requirements of SRD-130, the project was also implemented as a final remedy under the Resource Conservation and Recovery Act (RCRA) Corrective Action and Toxic Substance Control Act (TSCA) programs. On January 19, 2001, the EPA RCRA Corrective Action Program issued a determination that the remediation of contaminated sediments within Willow Brook and Willow Brook Pond was necessary. In order to obtain a decision that the remediation would be considered a final remedy for this area, EPA RCRA Corrective Action and TSCA staff were involved in the review of the RAWP and were included in all project related correspondence with the various regulatory agencies.

The overall remedial action objective was to physically remove from the site, via excavation and off-site disposal, all soil and sediment containing total PCB concentrations in excess of 25 mg/kg and then install a geotextile, soil and rock cap (engineered control) over the entirety of Willow Brook Pond and the open channel of Willow Brook from Willow Brook Pond to Main Street. Three areas within the Site were assigned additional remedial objectives. For the wetland and the southern portion of the Lower Willow Brook Pond, the additional remedial action objective was to physically remove all soil and sediment exhibiting contaminants at concentrations greater than the Residential Direct Exposure Criteria (RDEC) for PCBs. For the footprint of the Process Water Facility, inclusive of the small embayment west of the Process Water Facility, the additional remedial action objective was to meet the RDEC for PCBs for soils within 4-feet of the final grade, the Industrial/Commercial Direct Exposure Criteria (IDEC) for PCBs for soils located in inaccessible locations and the GB Pollutant Mobility Criteria (GB PMC) for soils above the seasonal high water table. All remedial action objectives were met during the course of the project.

The remediation included the demolition and removal of the Process Water Facility, a substation (Substation 54), and a former oil/water separator that was located between Upper and Lower Willow Brook Pond.

The remedial action objectives also included the implementation of two institutional controls to ensure the long-term protectiveness of the remedy. The institutional controls consist of 1) an Environmental Land Use Restriction (ELUR) to ensure the affected area will not be used for residential purposes and to prohibit excavation and 2) a fence around the entire project area to preclude access to Willow Brook and Willow Brook Pond. At the time of this report, the

perimeter fence is in place and a draft ELUR has been submitted to the Commissioner of DEP for approval.

Initially, it was anticipated that the total volume of soil and sediment to be excavated and disposed of off the Site would be approximately 12,500 cubic yards, which was estimated to be roughly equivalent to 21,250 tons (estimated at 1.7 tons per cubic yard). It was also estimated that the excavation and off-site disposal activities would be completed in the winter of 2001, with final restoration and establishment of vegetation to be performed through spring of 2002. Upon completion of the remediation activities, 66,706 tons (60,513,936 kilograms), or approximately 55,500 cubic yards of contaminated soil and sediment were excavated and disposed of off the site. The additional volume of contaminated soil resulted from (1) greater than anticipated lateral and vertical extent of contamination in planned remediation areas and (2) a decision by UTC/Pratt & Whitney Division to complete excavation beyond the limits required in Consent Order SRD-130 in select areas of the site where, due to physical constraints, the performance of future remediation would not be cost-effective or prudent.

Following the completion of excavation and demolition activities, the entire site was restored. The site restoration involved the installation of three types of engineered controls over the remaining soil and sediments. The engineered controls were designed to accommodate the anticipated stream flow velocities and considered the ultimate use of the areas. The Wetland north of Willow Brook was remediated to meet the RDEC. As such, there is no need for an engineered control within this area. The restoration activities performed were focused on restoring this area to a marsh with habitat value.

The permits and approvals issued by the Army Corps of Engineers, the DEP Inland Water Resources Division, and the DEP Permitting, Enforcement & Remediation Division contain specific requirements for various activities that extend beyond the construction period. The mandatory post-remediation activities for this project include monitoring and maintenance of the engineered controls, monitoring and maintenance of the wetland restoration, groundwater monitoring, and recording of the necessary land use restrictions and demonstrating financial assurance for the engineered control maintenance and monitoring activities. These post-construction activities are underway. Completed activities include the first round of post-remediation groundwater monitoring, the first post-remediation engineered control inspection, the first post-construction wetland mitigation monitoring event, the demonstration of financial assurance, and the drafting of an ELUR for the approval of the Commissioner of the DEP.

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ACRONYMS

CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
DEP	Connecticut Department of Environmental Protection
DQI	Data Quality Indicators
EA	Emergency Discharge Authorization
EQ	Environmental Quality Company
ELUR	Environmental Land Use Restriction
EPA	United States Environmental Protection Agency
EPS	Environmental Planning Services
ERA	Environmental Resource Associates
ETAL	Experimental Test Airport Laboratory
ETPH	Extractable Petroleum Hydrocarbons
FSP	Field Sampling Plan
GB PMC	GB Pollutant Mobility Criteria
GC	Gas Chromatograph
GC/MS	Gas Chromatograph/Mass Spectrometer
H&S	Health & Safety
HASP	Health and Safety Plan
IDEC	Industrial/Commercial Direct Exposure Criteria
IWRD	Inland Water Resources Division
LEA	Loureiro Engineering Associates, Inc.
MPC	Measurement Performance Criteria
MS/MSD	Matrix Spike/Matrix Spike Duplicates
MSL	Mean Sea Level
NELAC	National Environmental Laboratory Accreditation Council
NPDES	National Pollutant Discharge Elimination System
NOV	Notice of Violation
P&Z	Planning and Zoning
PCB	Polychlorinated Biphenyl
PCBs	Polychlorinated Biphenyls
PE	Performance Evaluation
PERD	Permitting, Enforcement & Remediation Division
PID	Photo-Ionization Detector
QA/QC	Quality Assurance/Quality Control
QAM	Quality Assurance Manager
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RAWP	Remedial Action Work Plan
RCSA	Regulations of Connecticut State Agencies
RCRA	Resource Conservation and Recovery Act
RDEC	Residential Direct Exposure Criteria
RPD	Relative Percent Difference
RSRs	Connecticut Remediation Standard Regulations
SOP	Standard Operating Procedure

SVOCs	Semi-Volatile Organic Compounds
SWPCP	Storm Water Pollution Control Plan
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total petroleum Hydrocarbons
TSA	Technical System Audits
TSCA	Toxic Substances Control Act
TSS	Total Suspended Solids
VCAP	Voluntary Corrective Action Program
VOCs	Volatile Organic Compounds
UTC	United Technologies Corporation

UNITS

µg/kg	Micrograms per kilogram
cm^2	Square Centimeters
mg/kg	Milligrams per kilogram
ppm	Parts per Million

1. INTRODUCTION

United Technologies Corporation (UTC)/Pratt & Whitney Division retained Loureiro Engineering Associates, Inc. (LEA), to design and perform the remediation of polychlorinated biphenyl (PCB) contaminated sediment within and immediately surrounding Willow Brook and Willow Brook Pond at the UTC/Pratt & Whitney manufacturing facility in East Hartford, Connecticut in accordance with State of Connecticut Consent Order SRD-130. Paragraph A.1 of Consent Order SRD-130 further refines the definition of the area subject to remediation as "A segment of Willow Brook, including an impoundment known as Willow Brook Pond, and an associated wetland and soil in the vicinity of an oil/water separator". The term "the Site" as used hereinafter, shall refer to only that portion of the UTC/Pratt & Whitney manufacturing facility defined above. A more detailed description of the limits of the Site is provided in Section 1.1 of this report.

This report has been prepared in accordance with the requirements of paragraph B.1.e of Consent Order SRD-130 and presents data supporting the attainment of the remedial objectives for the project. The remediation activities and restoration activities performed within and immediately surrounding Willow Brook and Willow Brook Pond took place during the period from July 2, 2001 through August 31, 2002. The remediation activities consisted of the following:

- The excavation and off-site disposal of soil and sediment from within and immediately surrounding Willow Brook and Willow Brook Pond that contained PCBs at concentrations greater than 25 milligrams per kilogram (mg/kg or parts per million (ppm)) with the following exceptions;

- The wetland downgradient of the dam where the excavation of soil and sediment at concentrations greater than the Residential Direct Exposure Criteria (RDEC) for PCBs was performed;

- The southern portion of the Lower Willow Brook Pond where the excavation of soil and sediment at concentrations greater than the RDEC for PCBs was performed; and

- The footprint of the Process Water Facility and the small embayment west of the Process Water Facility where soil was remediated to meet the RDEC for PCBs for soils within 4-feet of the final grade, the Industrial/Commercial Direct Exposure Criteria (IDEC) for PCBs for soils located in inaccessible locations and the GB Pollutant Mobility Criteria (GB PMC) for soils above the seasonal high water table.

At the onset of the remediation activities, it was anticipated that the total volume of soil and sediment to be excavated and disposed of off the Site would be approximately 12,500 cubic yards, which was estimated to be roughly equivalent to 21,250 tons (estimated at 1.7 tons per cubic yard). It was also estimated that the excavation and off-site disposal activities would be completed in the winter of 2001, with final restoration and establishment of vegetation to be performed through spring of 2002. Upon completion of the remediation activities, 66,706 tons (60,513,936 kilograms), or approximately 55,500 cubic yards of contaminated soil and sediment were excavated and disposed of off the Site. The additional volume of contaminated soil resulted from two factors. First, greater than anticipated lateral and vertical extent of contamination in planned remediation areas resulted in a significant expansion of excavation necessary to achieve the established remedial objectives. Second, a decision was made by UTC/Pratt & Whitney to complete excavation beyond the limits required in Consent Order SRD-130 in select areas of the Site where, due to physical constraints, the performance of future remediation would not be cost-effective or prudent.

1.1 Project Limits

Prior to detailing the remediation activities, it should be noted that Paragraph A.1 of Consent Order SRD-130 provides a definition of the area subject to remediation. The definition provided in SRD-130 was supported by a figure (Exhibit A) graphically depicting the limits of the area subject to remediation (referred hereinafter to as "the Site"). Exhibit A of Consent Order SRD-130 has been provided herein as Figure No. 1-2. The limits of the Site as presented in Exhibit A to SRD-130 are shown on Drawing No. 1-1. The potential existed that contamination may exist outside these limits. However, the intent of the remediation project detailed in this report was to address soil and sediment within and immediately surrounding Willow Brook and Willow Brook Pond. Measures to address contamination beyond the limits depicted on Drawing No. 1-1 would be addressed in the future as separate projects. As noted above, in select areas UTC/Pratt & Whitney elected to perform excavation beyond the limits required in SRD-130.

The limits of the project are defined in two separate areas (upstream of the dam and downstream of the dam) and each area in two separate parts. The limits of the project area upstream of the dam is defined in two parts, Willow Brook Pond and the area of the former oil/water separator. The project area downstream of the dam is defined in two parts, the stream channel of Willow Brook Pond and the wetland area.

1.1.1 Upstream of the Dam

1.1.1.1 Willow Brook Pond

With one exception, the lateral limit of the Site for Willow Brook Pond, inclusive of the small embayment west of the Process Water Facility and the footprint of the Process Water Facility, is defined as the horizontal location of the ordinary water level (reference Drawing No. 1-1). The single exception is the location east of the Upper Willow Brook Pond in the vicinity of a single soil boring WT-SB-132 (see Drawing No. 2-1 and Figure No. 2-1). The Site encompasses this boring to the limits shown on Drawing No. 1-1.

1.1.1.2 Former Oil/Water Separator

The lateral limits of the Site in the vicinity of the former oil/water separator were defined as the lateral limit of soils containing PCBs at concentrations greater than 25 mg/kg. However, it was recognized that the potential existed that PCBs and other constituents may be present in soils outside the limits of the Site that would require remediation as part of the project. In fact, remediation was performed well beyond the limits depicted on Drawing No. 1-1.

1.1.2 Downstream of the Dam

1.1.2.1 Stream Channel

The lateral limit of the project area for the stream channel was defined as the 10-year flood elevation. This is defined as 22.0 to 24.0 feet above mean sea level and is graphically depicted on Drawing No. 1-1.

1.1.2.2 Wetland Area

The lateral limit of the project area for the wetland was defined to the south by the northern limit of the stream channel and to the north, east and west as the lateral limit of soils containing PCBs at concentrations greater than the RDEC. Drawing No. 1-1 depicts the lateral limit of the wetland area.

1.2 Remedial Action Objectives

The overall remedial action (RA) objective was to physically remove from the Site via excavation and off-site disposal all soil and sediment containing total PCB concentrations in excess of 25 mg/kg. Three areas within the Site were assigned additional remedial objectives above and beyond the removal of soil and sediment containing total PCB concentrations in

excess of 25 mg/kg. For the wetland and the southern portion of the Lower Willow Brook Pond, the additional RA objective was to physically remove all soil and sediment exhibiting contaminants at concentrations greater than the RDEC for PCBs. For the footprint of the Process Water Facility, inclusive of the small embayment west of the Process Water Facility, the additional remedial action (RA) objective was to meet the RDEC for PCBs for soils within 4-feet of the final grade, the IDEC for PCBs for soils located in inaccessible locations and the GB PMC for soils above the seasonal high water table. As noted above, the RA objectives were met.

UTC/Pratt & Whitney will implement two institutional controls to ensure the long-term protectiveness of the proposed remedy. The institutional controls consist of 1) an Environmental Land Use Restriction (ELUR) to ensure the affected area will not be used for residential purposes and to prohibit excavation and 2) installation of a fence around the entire project area to preclude access to Willow Brook and Willow Brook Pond. As of the date of this report, the second of these institutional controls is in place.

1.3 Remedial Action Approach

The remediation approach consists of the excavation and off-site disposal of soil and sediment from within and immediately surrounding Willow Brook and Willow Brook Pond that contains PCBs at concentrations greater than 25 mg/kg followed by the installation of a geotextile, soil and rock cap (engineered control) over the entirety of Willow Brook Pond and the open channel of Willow Brook from Willow Brook Pond to Main Street. As noted above, the RA objective was modified in three select areas of the Site. The approach to remediation in each of these areas was as follows:

- For the wetland, following attainment of the RA objective, the area was backfilled and planted to restore the wetland;

- For the southern portion of the Lower Willow Brook Pond, following attainment of the RA objective, the area was restored with an engineered control to match the restoration of the remaining pond bottom areas; and

- For the footprint of the Process Water Facility and the small embayment west of the Process Water Facility, following the attainment of the remedial objective, the area was restored with 4 feet of clean fill.

This approach necessitated a variance to the criteria of the Remediation Standard Regulations (RSRs). In accordance with 22a-133k-2(f)(2)(A) and (B) of the Regulations of Connecticut State Agencies (RCSA), a request to use an engineered control (Request for Variance) was submitted

to the Commissioner of the Connecticut Department of Environmental Protection (DEP) in January 2001 and was subsequently revised in response to DEP comments in May 2001 and July 2001. The Request for Variance as revised in July 2001 was approved by the DEP on August 3, 2001.

The components of the remedial action approach include:

- The excavation and installation of a temporary lined by-pass channel with inlet and outlet structures to redirect Willow Brook around the Site during the implementation of the remediation.

- The dewatering of the Site and the treatment of dewatering wastewater prior to discharge to the Connecticut River.

- The demolition of the existing Process Water Facility building structures and the off-site disposal of construction demolition debris.

- The removal and off-site disposal of the former oil/water separator located between Upper and Lower Willow Brook Pond. The excavation and complete removal of the structure with off-site disposal of impacted soil and concrete and the placement of a flexible membrane liner and soil cap (engineered control) to achieve compliance with the variance provisions in the RSRs.

- The excavation and off-site disposal of soil and sediment containing total PCBs at concentrations greater than 25 mg/kg from within and immediately surrounding Willow Brook and Willow Brook Pond.

- The excavation and off-site disposal of soil and sediment containing PCBs at concentrations between 10 and 25 mg/kg from within the footprint of the Process Water Facility and the small embayment west of the Process Water Facility.

- The excavation and off-site disposal of soil and sediment containing PCBs at concentrations between 1 and 25 mg/kg from within and immediately surrounding the wetland area located north of Willow Brook.

- The excavation and off-site disposal of soil and sediment from within the open channel of Willow Brook to allow for the installation of the geotextile, soil, and stone cap (engineered control) within the stream channel.

- The placement of a geotextile, soil and stone cap (engineered control) over the entirety of the excavated area (with the exception of an approximately 1-acre wetland and the footprint of the process water facility) to isolate sediment containing less than 25 mg/kg total PCBs commingled with semi-volatile organic compounds (SVOCs), petroleum hydrocarbons, and select metals to achieve compliance with the variance provisions in the RSRs.

- The restoration of the footprint of the Process Water Facility and the small embayment west of the Process Water Facility with 4 feet of clean fill.

- The restoration of an approximately 1-acre wetland located downstream of the Willow Brook Pond Dam.

- The implementation of two institutional controls consisting of 1) an ELUR to ensure the affected area will not be used for residential purposes and to prohibit excavation; and 2) installation of a fence around the entire area to preclude access to Willow Brook and Willow Brook Pond.

1.4 Regulatory Framework

The remediation activities were undertaken at the Site to address the presence of PCB impacted soil and sediment within and immediately surrounding Willow Brook and Willow Brook Pond. The project was undertaken to satisfy the requirements of Consent Order SRD-130. In addition to satisfying the requirements of SRD-130, the project was also implemented as a final remedy for the Site under Resource Conservation and Recovery Act (RCRA) Corrective Action. The following parts of this Section set forth the regulatory history of the project and the involvement of the various regulatory agencies in the issuance of permits and approvals associated with the project.

In September 1997, oil was noted as seeping through sediments during the routine draining of Willow Brook Pond. UTC/Pratt & Whitney reported the sheen to the United States Coast Guard and the DEP in accordance with discharge reporting requirements. Following the detection of PCBs in a sample collected from the vicinity of the seep, on November 7, 1997 the DEP issued UTC/Pratt & Whitney a Notice of Violation (NOV) No. PCB 97-08. In response to the NOV, during the period from December 1997 to April 1999, UTC/Pratt & Whitney developed a sampling work plan and conducted three phases of investigation. These investigations provided the analytical data to sufficiently define the horizontal and vertical limits of contamination and provided the basis for the development of a remediation plan. During the period from April 1999 to November 2000, UTC/Pratt & Whitney identified and evaluated remedial alternatives to

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- Emergency/Temporary Authorization for the discharge of dewatering and groundwater remediation wastewater on September 6, 2001 and a modification to the same on October 12, 2001.

- Authorization under the General Permit for the Discharge of Stormwater and Construction Dewatering Wastewater on July 11, 2001.

- Authorization under the General Permit for the Discharge of Groundwater Remediation Wastewater to the Sanitary Sewer on May 25, 2001.

Key DEP contact for the above:

Donald Gonyea
Department of Environmental Protection
Bureau of Water Management
Permitting, Enforcement, Remediation Division
79 Elm Street, Third Floor
Hartford, CT 06106-5127

Phone: (860) 424-3827
Facsimile: (860) 424-4057

1.4.2 United States Environmental Protection Agency

The EPA was the agency contact for the investigation and remediation of the Site under the RCRA Voluntary Corrective Action Program. Of interest to the EPA was that the remediation was conducted in a manner consistent with the Toxic Substance Control Act (TSCA) and more specifically, the provisions of 40 CFR (Code of Federal Regulations) 761 - Polychlorinated Biphenyls Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions. Pertinent documents issued by the EPA are provided below along with the key contacts associated with each.

- Determination of need letter dated January 19, 2001;

- A memorandum indicating that all comments related to the document entitled *Remedial Action Work Plan* had been addressed to the satisfaction of EPA dated February 22, 2002.

The key contacts for the above were:

Juan A. Pérez
U.S. EPA, Region 1, New England
One Congress Street
Suite 1100 (HTB)
Boston, CT 02114-2023

Phone: (617) 918-1354
Facsimile: (617) 918-1294

Kim Tisa (CPT)
U.S. EPA, Region 1, New England
One Congress Street
Suite 1100 (HTB)
Boston, CT 02114-2023

Phone: (617) 918-1527
Facsimile: (617) 918-0527

1.4.3 Town of East Hartford

The Town of East Hartford Planning and Zoning (P&Z) Commission and the Wetlands Commission were both consulted prior to implementation of remedial action at the Site. Pertinent permits and/or approvals issued by the Town of East Hartford and key contacts associated with each include the following.

- Inland Wetlands Commission permit to conduct a regulated activity in the Town of East Hartford, File Number 2001-004, issued April 24, 2001.
- P&Z Commission permit to conduct an activity in a Major Flood Hazard Zone in the Town of East Hartford, approval issued June 27, 2001.
- P&Z Commission Soil Erosion and Sediment Control Permit, approval issued on June 27, 2001.

The key contact for the above:

M Denise Horan, P.E.
Town Engineer/Designated Agent for the Planning & Zoning Commission
and Inland Wetlands Commission
Town of East Hartford
740 Main Street
East Hartford, CT 06108

Phone (860) 291-7380
Facsimile (860) 289-0831

1.4.4 Army Corps of Engineers

The Army Corps of Engineers (ACOE) was the key agency contact for the issuance of permit under Section 404 of the Federal Clean Water Act as the remediation impacted greater than one acre of jurisdictional wetlands. The individual permit (Permit Number 200002988) was issued on July 24, 2001.

The key contact for the individual permit was:

Cori M. Rose
Project Manager
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Phone (978) 318-8306
Facsimile (978) 318-8303

1.5 Report Format

The following is a summary of the content of each of the following sections of the report. To maintain the readability of this report and to prevent the numerous tables and figures from interfering with the flow of the text, tables, figures and drawings have been placed after the final text sections of the main body of the report. Supporting documents, validated chemical analytical data for confirmatory samples, boring logs, well completion logs, and summaries of waste disposal records are provided in separate volumes.

- Section 2 presents background information to provide the reader some perspective on the activities that lead up to the development and implementation of the remediation of the Site. Specifically, Section 2 summarizes investigations performed to assess the nature and extent of impacted soils and sediments at the Site and provides a delineation of the areas known to require remediation action at the onset of construction activities at the Site.

- Section 3 presents a summary of the field sample collection procedures. The overall intent of this section of the report is to provide written documentation of conformance to the approved RAWP and, in those areas where modifications were made, to document

those modifications. The section presents, the field sample collection, handling, and documentation procedures for confirmatory soil and sediment, porous media, and non-porous media, disposal characterization samples, dewatering wastewater effluent samples, decontamination samples, and sheet pile samples.

- Section 4 of the report presents the methods employed to ensure that the confirmatory samples collected to document the attainment of remedial objectives were valid. As with Section 3, the overall intent of this section is to provide written documentation of conformance with the requirements of the approved Remedial Action Work Plan. The section presents an evaluation of quality control samples, confirmatory soil and sediment, concrete chip, wood and wipe samples and presents the results of data validation activities and an overall assessment of the quality of the data. The section ends with a discussion documenting the performance of audits, which were completed to provide assurance that data collected for the purpose of documenting the achievement of the remedial objectives for the Site were valid.

- Section 5 is a presentation of the remedial action activities that were performed at the Site. The section documents conformance with the requirements of the approved Remedial Action Work Plan. The section also details those instances where remedial action activities were performed beyond the limits required in Consent Order SRD-130. The section describes in detail the following activities: pre-construction; site preparation; construction of the diversion channel; demolition of onsite structures; wastewater generation and treatment; soil and sediment excavation; off-site waste disposal; air monitoring; and soil erosion and sediment control monitoring.

- Section 6 documents the compliance with the RA objectives for the Site. This section is formatted to detail the attainment of the RA objectives by areas of the Site. In establishing the format for presentation, the Site was broken down into four distinct pieces: 1) the Upper Willow Brook Pond – Remediation Areas 01 through 03; 2) the Oil/Water Separator– Area 04; 3) the Lower Willow Brook Pond and Process Water Facility – Areas 05 through 11; and 4) the Willow Brook Stream Channel and Wetland – Areas 12 through 15. The section ends with a discussion of areas that exist outside the limits of the Site that were identified during the performance of remedial action activities that will require further evaluation.

- Section 7 is a presentation of the Site restoration activities. To maintain conformity with previous sections of the report, this section presents the restoration activities for the same pieces of the Site as documented in Section 6 (i.e. Upper Willow Brook Pond, Oil/Water

Separator, Lower Willow Brook Pond and Process Water Facility, and Willow Brook Stream Channel and Wetland).

- Section 8 is a discussion of future activities to be performed to document the effectiveness of the remedial action activities, to ensure the engineered controls remain effective barriers to residual contamination, and to ensure the engineered controls are not disturbed in the future.

2. BACKGROUND

This section presents background information to provide the reader perspective on the activities that lead up to the development and implementation of the remedial action at the Site. This section provides a summary of investigations performed to assess the nature and extent of impacted soils and sediments at the Site. The results of these investigations have been presented in detail in the reports entitled *Report on PCB Investigation for Willow Brook and Willow Brook Pond Sediment*, prepared by LEA, dated February 13, 1998, *Report on Supplemental PCB Investigation for Willow Brook and Willow Brook Pond*, prepared by LEA, and dated April 1998, and *Report on PCB Investigation for Willow Brook and Willow Brook Pond*, prepared by LEA, and dated April 1999. This section summarizes the results of these investigations and ends with a discussion of the areas known to require remediation at the outset of remedial action activities at the Site.

2.1 Site Location and Description

The UTC/Pratt & Whitney East Hartford manufacturing facility is located at 400 Main Street in East Hartford, Connecticut. The facility encompasses approximately 1,100 acres of contiguous land. Pratt & Whitney initiated aircraft engine manufacturing operations in East Hartford in December 1929. Current operations are conducted in a 6.5 million square foot complex and include administration and management, manufacturing, testing, research and development and ancillary services. All of these activities take place in the western portion of the 1,100-acre property. The Rentschler Airport and the Klondike Area occupy the eastern portion of the property. UTC/Pratt & Whitney previously used these two areas as an airport and a storage/testing area, respectively.

The Site is located in the extreme western portion of the UTC/Pratt & Whitney East Hartford facility property and is approximately 4 acres in size. A more detailed description of the Site is provided in Section 1.1 of this report and is presented graphically on Drawing No. 1-1. Willow Brook is a small stream transecting the UTC/Pratt & Whitney facility from the northern portion of the Rentschler Airport through to the northwest portion of the current UTC/Pratt & Whitney operations complex. Willow Brook flows in a southwesterly direction in an open channel from the Rentschler Airport, is then hard-piped underground to the inlet of Willow Brook Pond, and continues from the pond as an open channel to a culvert under Main Street. From Main Street, Willow Brook flows in an open channel for a distance of approximately 2,500 feet to the confluence with the Connecticut River (see Figure No. 1-1). Willow Brook Pond is a man made water body located in the northern portion of the Site (See Drawing No. 1-1). The pond, a single body of water when first created, has been modified various times through the years. It is now

comprised of two ponds (Upper Willow Brook Pond and Lower Willow Brook Pond) subdivided by a culvert.

Known water discharges to surface water that have existed at one point in time or another at the UTC/Pratt & Whitney East Hartford Facility include Discharge Nos. 001 through 015. The principal discharge from the facility is Discharge 001. Discharge 001 is the discharge of effluent from the dilute wastewater treatment plant at Colt Street. The other water discharges are permitted through the National Pollutant Elimination System (NPDES) program and are comprised mostly of cooling water and stormwater runoff. Only Discharge Nos. 001 through 004 and 007 through 009 are or were associated with Willow Brook or Willow Brook Pond. These discharges contained basement dewatering, industrial waters and process wastewater. Some of the discharges to the pond were routed through an oil/water separator. A map showing site wide discharge locations was previously provided in the *Work Plan for Willow Brook and Willow Brook Pond PCB Investigation*, prepared by LEA and dated December 12, 1997.

The majority of the water historically drawn from Willow Brook Pond was used in buildings as a source of process water. The water was then collected and rerouted back to Willow Brook Pond via NPDES discharge 003 and 004 and to Willow Brook via NPDES discharge 002. Historically basement dewatering operations and industrial waters has discharged through an oil/water separator at the Experimental Test Airport Laboratory (ETAL) to Willow Brook upstream of Willow Brook Pond. This building has been demolished, the oil/water separator removed, and the discharge has been discontinued.

2.2 Site Investigations

During routine draining of Willow Brook Pond in September 1997, an oil sheen was noticed seeping through the sediment. Pratt & Whitney reported the sheen to the United States Coast Guard and the DEP in accordance with discharge reporting requirements. Following the detection of PCBs in a sample, the DEP issued Pratt & Whitney a NOV, No. PCB 97-08, on November 7, 1997. In response to the NOV, UTC/Pratt & Whitney developed a sampling work plan and conducted three phases of remedial investigation from December 1997 to April 1999. These investigations identified the probable sources and provided the analytical data to sufficiently define the horizontal and vertical limits of contamination allowing development of a remediation plan.

The investigations confirmed that historic discharges originating from the UTC/Pratt & Whitney East Hartford facility resulted in the deposition of oils containing PCBs within and immediately surrounding Willow Brook and Willow Brook Pond. The investigations conducted to ascertain probable sources, which included assessments of various drain and discharge connections,

review of historic mapping, as well as surface water sampling and analysis, provide documentation to verify that there are no continuing sources of PCB contamination to Willow Brook and Willow Brook Pond.

2.2.1 Initial Site Characterization Investigations

The results of these investigations are presented in the document entitled *Report on PCB Investigation for Willow Brook and Willow Brook Pond Sediment*, prepared by LEA, and dated February 13, 1998. The purpose of this report was to present the findings of the investigation conducted within Willow Brook and Willow Brook Pond in order to address the requirements of item (1) of the third paragraph of the NOV No. PCB 97-08. The sampling was performed in accordance with the document entitled *Work Plan for Willow Brook and Willow Brook Pond PCB Investigation*, prepared by LEA, and dated December 12, 1997. The Work Plan was approved by the DEP on December 22, 1997.

Polychlorinated biphenyls were detected in sediment samples at concentrations of up to 617 mg/kg total PCBs at sampling point WT-SD-33, located immediately downgradient of the culvert connecting the Upper and Lower Willow Brook Ponds. Elevated PCB concentrations were also observed along Willow Brook immediately downstream of Lower Willow Brook Pond. A total PCB concentration of 327.4 mg/kg was observed in the sediment at location WT-SD-54. The results of the investigations indicated the presence of elevated PCB concentrations throughout Upper and Lower Willow Brook Ponds and in the section of Willow Brook between the pond and Main Street. The PCB concentrations observed beyond the culvert located at the Main Street intersection were below 1 mg/kg.

Selected sediment samples were also analyzed for volatile organic compounds (VOCs), SVOCs, total petroleum hydrocarbons (TPH), and the RCRA eight metals (arsenic, barium, cadmium, chromium, mercury, lead, silver, selenium) plus nickel, zinc.

Among the limited sediment samples analyzed for these parameters, elevated levels of SVOCs were detected in the sediment at location WT-SD-47 in the Upper Willow Brook Pond. The highest SVOC concentrations reported in that sample included pyrene (480 mg/kg), phenanthrene (514 mg/kg), fluoranthene (537 mg/kg), chrysene (232 mg/kg), etc. Some of the highest metal concentrations observed in this location included lead (153 mg/kg), zinc (152 mg/kg), barium (37.7 mg/kg), and nickel (36.4 mg/kg). The only VOC compounds identified in this location included trichloroethylene (23 µg/kg), tetrachloroethylene (11.6 µg/kg), 1,1,1-trichloroethane (9.7 µg/kg), and 1,1-dichloroethane (10 µg/kg).

Elevated TPH concentrations were observed at WT-SD-47 (1,160 mg/kg) and WT-SD-09 (4,340 mg/kg and 3,940 mg/kg in the duplicate). Relatively elevated metal concentrations were also observed at this location (zinc 772 mg/kg and 689 mg/kg in the duplicate, nickel 595 mg/kg and 593 mg/kg in the duplicate, lead 714 mg/kg and 691 mg/kg in the duplicate, chromium 490 mg/kg and 497 mg/kg in the duplicate).

Based on the results obtained, additional investigations were determined to be necessary to further characterize the vertical extent of the contamination within Willow Brook and Willow Brook Pond.

2.2.2 Supplemental Site Characterization Investigations

The results of these investigations are presented in the document entitled *Report on Supplemental PCB Investigation for Willow Brook and Willow Brook Pond*, prepared by LEA, and dated April 1998. The purpose of this report was to present the findings of the supplemental PCB investigation conducted on Willow Brook and Willow Brook Pond. The supplemental soil and sediment sampling was performed to provide further characterization of the vertical extent of the contamination within Willow Brook and Willow Brook Pond and to assess the presence or absence of contamination in nearby suspected source areas. The investigations focused on three areas not previously investigated to assess the potential for these areas to have resulted in impacts to Willow Brook or Willow Brook Pond. These areas included: 1) the southwestern bank of Willow Brook Pond; 2) a former oil basin located west of the Process Water Facility; and 3) the former oil/water separator located between the Upper and Lower Willow Brook Ponds. In addition to the above areas, investigations were also performed throughout Upper and Lower Willow Brook Pond to refine the understanding of the vertical extent of contamination in these areas.

Southwestern bank of Willow Brook Pond: This area was investigated to determine if infiltration or seepage from historic sludge drying beds located to the south of Willow Brook Pond was a potential source. Four soil borings were also installed at the southwestern bank of Willow Brook Pond downgradient of the historic sludge drying beds. Low total PCB concentrations (up to approximately 2 mg/kg) were detected in the borings installed along the southwestern bank of Willow Brook Pond.

Former Oil Basin: This area was investigated to determine if infiltration or seepage from historic operations in the oil basin area was a potential source of PCB contamination to Willow Brook Pond. Four soil borings were installed in the vicinity of the area of the embayment located west of the Process Water Facility. PCBs were detected in the soils collected from the four soil borings. The highest total PCB concentrations were of the order of 1.3 mg/kg.

Former Oil/Water Separator: This area was investigated to determine if the former oil/water separator was a source of PCB contamination. Five soil borings were installed in the vicinity of the former Oil/Water Separator located between the Lower and Upper Willow Brook Pond. The total PCB concentration observed in this area ranged up to 128 mg/kg (location WT-SB-88) at a depth of 10 to 12 feet. Free oil was also observed in this location.

Vertical Extent Investigation: In-depth sampling was also performed within Lower and Upper Willow Brook Pond and in the wetland located west of Lower Willow Brook Pond in an effort to refine the understanding of the vertical extent of contamination. Detected total PCB concentrations within the Willow Brook Pond (Upper and Lower) ranged up to a maximum of 258 mg/kg in the upper 0- to 2-foot interval of sediment. The highest concentration was observed in location WT-SD-72. Significantly lower and/or non-detectable levels were observed at greater depths. PCB concentrations remained at detectable levels at certain locations at depths up to 8 or 12 feet.

The total PCB concentrations detected in Willow Brook in the vicinity of the wetlands area and within the wetlands for surface samples (0 to 6 inches) ranged in concentration from 44 mg/kg up to 299 mg/kg (location WT-SD-92). The total PCB concentrations observed in the at-depth samples (1.5 to 2.0 feet) were significantly lower ranging from 2.6 mg/kg to 5.7 mg/kg.

Additional investigations were then proposed, focusing on the areas where the highest levels of PCB contamination were identified to further assess the extent of contamination in these areas.

2.2.3 Final Site Characterization Investigations

The results of these investigations are presented in the document entitled *Report on PCB Investigation for Willow Brook and Willow Brook Pond*, prepared by LEA, and dated April 1999. The purpose of this report was to present the findings of the third phase of investigations in Willow Brook and Willow Brook Pond. During this phase, soil samples were collected from soil borings and monitoring wells installed in the vicinity of Willow Brook Pond. In addition, surface sediment and soil samples to depths of up to six feet were collected along the banks of Willow Brook. Soil/sediment samples were collected from the Wetland Area and from adjacent residential properties along the portion of Willow Brook which lies downstream of the dam on the west end of Lower Willow Brook Pond. Groundwater sampling was also performed in monitoring wells installed at the perimeter of Willow Brook Pond.

Willow Brook Pond Perimeter Sampling: Twelve soil borings and eight monitoring wells were installed in the vicinity of Willow Brook Pond to assess the lateral extent of the contamination. Total PCB concentrations of 50.87 mg/kg were observed to the east of Upper Willow Brook

Pond, along the reinforced concrete pipe that conveys flow from Willow Brook into Willow Brook Pond. PCB concentrations up to 14.33 mg/kg were observed in the area of the former oil/water separator between Upper and Lower Willow Brook Pond.

Wetlands and Stream Bank Sampling: Soil/sediment samples were collected from several abutting residential properties along the segment of Willow Brook between Willow Brook Pond and Main Street. The samples were collected at different elevations along the bank of the brook to assess the lateral extent of contamination. Samples were also collected from the Wetlands Area. Surface soil/sediment samples were collected in a total of 28 locations. The maximum concentration of PCBs was observed in the Wetland Area (up to 596.2 mg/kg). Relatively elevated SVOC and select metals concentrations were also observed within this area. The total PCB concentrations typically decrease to less than 1 mg/kg at a depth of 4 to 6 feet below grade. Total PCB concentrations up to 21.77 mg/kg were detected from sediment within Willow Brook downstream of the Wetland Area. The PCB concentrations observed drop substantially at higher elevations along the bank of Willow Brook, indicating that the contamination is confined within the brook and the wetland. PCB concentrations decrease to less than 1 mg/kg prior to Main Street.

Groundwater Sampling: Groundwater samples were collected by LEA personnel from the installed monitoring wells on December 4, 1998. PCBs were detected in groundwater from monitoring wells WT-PZ-136 (8.5 µg/l) and WT-PZ-139 (0.73 µg/l). These wells are in the vicinity of locations where the highest PCB concentrations in soil have been detected.

Surface Water Sampling: Surface water samples were collected from two locations at Willow Brook Pond (at the Process Water Facility and at the dam located at the west end of Lower Willow Brook Pond) and from Willow Brook (downstream of Willow Brook Pond at the intersection with Main Street). No PCBs were detected in any of the surface water samples collected.

2.3 Areas Requiring Remediation

Based on the above investigations areas of PCB contamination within and immediately surrounding Willow Brook Pond were delineated. Figures graphically depicting the known results of the investigations are presented as Figure Nos. 2-1 and 2-2. These figures were developed from the results of the investigations described above and represented the estimated lateral extent of PCB impacted soil and sediment at the Site. During the development of the Remedial Action Work Plan, areas of PCB contamination that exceeded the remedial objectives detailed in Section 1.2 were established. A total of 15 discrete areas were identified. These areas are described in greater detail below under the headings Upper Willow Brook Pond,

Oil/Water Separator, Lower Willow Brook Pond and the Process Water Facility, and Willow Brook Stream Channel and Wetland.

2.3.1 Upper Willow Brook Pond - Areas 01 through 03

The Upper Willow Brook Pond project area consisted of three discrete planned remediation areas. These areas are also referred to herein as Areas 01, 02, and 03. Area 01 is actually located immediately east of Upper Willow Brook Pond in the location of soil boring WT-SB-132. This area was included in this as a direct result of a comment received by DEP. Areas 02 and 03 are located within Upper Willow Brook Pond. The limit of each of the planned remediation areas is graphically depicted on Drawing No. 2-1. Original planned excavation for Areas 01 through 03 was 530 cubic yards. The actual volume of excavation for Areas 01 through 03 was approximately 7,197 cubic yards. The additional volume of material excavated from this project area results largely from a decision made by UTC/Pratt & Whitney to complete excavation beyond the limits required in Consent Order SRD-130 in the area located north of Upper Willow Brook Pond as access to the area would be significantly limited following restoration and the performance of future remediation would therefore not have been prudent. In addition, within Upper Willow Brook Pond, a greater than anticipated lateral and vertical extent of contamination was encountered in each remediation area.

2.3.2 Oil/Water Separator– Area 04

The Oil/Water Separator project area consisted of one discrete planned remediation area, Area 04. Area 04 is located on the land bridge between Upper Willow Brook Pond and Lower Willow Brook Pond. The limit of the initially planned remediation area is graphically depicted on Drawing No. 2-1. The original planned excavation for Area 04 was 2,650 cubic yards. The actual volume of excavation for Area 04 was approximately 14,453 cubic yards. The additional volume of material excavated from this project area results largely from greater than anticipated lateral and vertical extent of contamination encountered. In addition, the additional volume of excavation was influenced by the decision made by UTC/Pratt & Whitney to complete excavation beyond the limits required in Consent Order SRD-130. This particularly influenced the lateral expansion of the area to the north, in the direction of the northern property boundary.

2.3.3 Lower Willow Brook Pond & Process Water Facility – Areas 05 through 11

The Lower Willow Brook Pond and Process Water Facility project area consisted of seven discrete planned remediation areas. These areas are also referred to herein as Areas 05 through 11. Area 07 is the footprint of the former Process Water Facility and the small embayment located west of the Process Water Facility. Area 07 is located outside Lower Willow Brook

Pond on the southeastern bank. Areas 05 through 11, with the exception of Area 07, are located within Lower Willow Brook Pond. The limit of each of the planned remediation areas is graphically depicted on Drawing No. 2-1. Original planned excavation for Areas 05 through 11 was 2,020 cubic yards. The actual volume of excavation for Areas 05 through 11 was approximately 13,065 cubic yards. The additional volume of material excavated from this project area results from a greater than anticipated lateral and vertical extent of contamination encountered in each remediation area. Upon completion of excavation activities, the entire land area of Lower Willow Brook Pond was affected by excavation.

2.3.4 Willow Brook Stream Channel and Wetland – Areas 12 through 15

The Willow Brook Stream Channel and Wetland project area consisted of four discrete planned remediation areas. These areas are also referred to herein as Areas 12 through 15. Areas 12 through 15 are located downstream of the dam at the west end of Lower Willow Brook Pond. Area 12 is the wetland area located north of the Willow Brook Stream Channel. Areas 13, 14, and 15 make up the planned remediation areas within the Willow Brook Stream Channel. The limit of each of the planned remediation areas is graphically depicted on Drawing No. 2-1. Original planned excavation for Areas 12 through 15 was 7,300 cubic yards. The actual volume of excavation for Areas 12 through 15 was approximately 20,811 cubic yards. The additional volume of material excavated from this project area results from a greater than anticipated lateral and vertical extent of contamination encountered in each remediation area.

3. FIELD SAMPLE COLLECTION

The overall quality assurance objective of the Field Sampling Plan (FSP) was to provide sampling and analytical data that verified the achievement of the remediation goals for the Site. The data were used to confirm that PCB concentrations remaining in soil/sediment/concrete and various non-porous materials at the limits of the excavation were consistent with the RA objectives. The data were also used to determine the handling and disposal requirements for the soil/sediment/concrete and miscellaneous materials generated during the remedial activities. A significant number of samples were collected by trained field personnel during the RA. The need to maintain accurate and complete documentation of each phase of the project was critical. Included in this section are a description of the sample collection procedures; number, types, and locations of samples collected; and discussion of the documentation and management of the field sampling activities performed during the RA.

The sampling program was developed in consideration of the requirements presented in 40 CFR 761 Section 761.61(c), 40 CFR 761 Subpart O, and the documents entitled *Verification of PCB Spill Cleanup By Sampling and Analysis*, EPA August 1985 and *Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup*, EPA May 1986.

3.1 Field Sample Collection Procedures

The following types of samples were collected during the remedial activities: confirmatory soil and sediment samples, confirmatory porous media samples, confirmatory non-porous media samples, disposal characterization samples, and dewatering wastewater effluent samples. Samples were collected during the period from July 2001 through August 2002. Sample collection procedures for each type of sample mentioned above is discussed in the following sections.

3.1.1 Confirmatory Soil and Sediment Sampling

Post-excavation soil/sediment samples were collected to confirm the successful implementation of the RA and document residual contamination concentrations. Confirmatory soil and sediment samples consisted of grab and composite samples. A description of the sampling procedure and approach used for the verification of remediation is summarized below.

Grab and composite soil samples were collected as discussed in Section 4.0 of the RAWP and in accordance with the *LEA Standard Operating Procedure for Soil Sampling* (SOP ID 10006W, revised August 31, 2001). The Standard of Procedure (SOP) (10006) was revised to add a "resting period" for PCB composite sample aliquots as requested by the EPA.

3.1.1.1 Grab Soil Samples

Sample Collection Procedure: Grab soil samples were collected from discrete sampling locations. The individual grab samples were not used to form a composite sample. The samples were collected using only disposable sampling equipment. Each sampling device was discarded after sample collection and replaced with a new device prior to collecting the next sample. Since only disposable sampling equipment was used, decontamination was not necessary. Soil samples collected for VOC analysis were collected in accordance with SW-846 Method 5035 and contained methanol preservation. Samples were extracted and analyzed by the laboratory in accordance with the applicable analytical methods that were requested (i.e. PCBs and "Other" parameters such as metals, VOCs, SVOCs, TPH, and cyanide).

Sampling Approach for Verification of Remediation: In order to document the adequacy of the lateral extent of the remediation within the wetland area, soil grab samples were obtained from the sidewalls of the excavations at a rate of one grab sample per 320 square feet of sidewall of excavation. This sampling pattern was enhanced with judgmental samples as needed, based on field observations. This pattern was implemented on the northern, eastern and western sidewalls of the wetland remediation area. Since the wetland area was restored without a cap, floor sampling for constituents of concern other than PCBs was necessary. These other constituents included metals, VOCs, SVOCs, TPH and cyanide. Floor sampling was accomplished by obtaining one grab sample at the center point of the four adjacent grab sample locations defined for PCB sampling. This analysis was representative of the respective 1,600 +/- square foot area.

The analytical data obtained from the grab samples were compared to the appropriate criteria presented in the RSRs. In those instances where sample data indicated an exceedance of applicable criteria, additional excavation was performed and sampling was conducted to verify attainment of the RA objective.

The approach for the verification of remediation in non-engineered control areas at the Site consisted of the collection of both composite and grab soil samples from the bottom and sidewalls of the excavation. Bottom composite sampling was performed at a rate of one sample per 1,600 square feet of excavation (20 by 20-foot grid spacing). Composite sampling is discussed in more detail below. Since the non-engineered control areas were to be remediated in a manner consistent with the RSRs, individual grab samples were collected from the center of each of the 20 by 20-foot grid squares utilized for bottom composite sampling (a rate of one sample per 1,600 square feet of excavation area). In order to document the adequacy of the lateral extent of the remediation within these areas, soil grab samples were also obtained from

the sidewalls of the excavations, at varying depths, at a rate of not less than one sample per 320 square feet of excavation sidewall. This sampling pattern was enhanced with judgmental samples as needed based on field observations (i.e. stratification, discoloration, etc.).

3.1.1.2 Composite Soil Samples

Sample Collection Procedure: Composite soil samples were collected from discrete sampling locations using calibrated disposable syringes. One syringe was used for each composite sample unless the integrity of the syringe was questionable, in which case the syringe was discarded and replaced with a new syringe. The individual grab samples were used to form a single composite sample in the field. Each aliquot was examined for the presence of free liquid. If free liquid was present, the field sampler allowed the aliquots to "rest" and the free water was decanted prior to compositing. The aliquots were composited and thoroughly homogenized in the laboratory-supplied glassware. Samples were extracted and analyzed for PCBs in accordance with the EPA Method 8082.

Sampling Approach for Verification of Remediation: The approach for the verification of remediation in engineered control areas at the Site consisted of the collection of composite soil samples from the bottom and sidewalls of the excavation. Bottom composite sampling was performed at a rate of one sample representing a 1,600 square foot area (20 by 20-foot grid spacing) and a rate of one composite sample representing a 320 square foot area of sidewall excavation.

To confirm the vertical extent of remediation, post-excavation confirmatory soil/sediment samples for PCBs were collected from the bottom of the excavated areas, which were located beneath the engineered controls within Willow Brook, Willow Brook Pond, and the Oil/Water Separator Area as defined above at a frequency of one sample per 400 square feet (20-foot grid spacing). Grab samples were obtained on each grid node. A maximum of four grab samples from adjacent grid nodes were composited into one sample in the field for PCB analysis in the laboratory. This analysis represented the respective 1,600 +/- square foot area. The sampling points proceeded in every direction to the extent sufficient to result in a comprehensive two-dimensional grid completely overlaying the bottom of the excavation area. Judgmental samples were added as appropriate based upon field observations (i.e. discoloration or stratification) and as needed to adequately represent the floor area of each remediation area. Due to the irregular shape of remediation areas within the limits of the project and the coverage provided by the proposed grid layout presented in the RAWP, each composite bottom sample actually represented 1,200 square feet of excavation area. This is an approximately 25 percent greater sampling density than the proposed rate of one sample per 1,600 square feet.

In order to document the adequacy of the lateral extent of the remediation within the engineered control areas, composite samples were collected from the vertical sidewall of the excavations at a rate of not less than 1 composite sample per 320 square feet of sidewall. Each composite sample was comprised of not more than four individual aliquot samples. Individual aliquot samples were collected at a rate of one sample per 4-vertical feet every 20 linear feet along the sidewall. This sampling pattern was enhanced with judgmental samples as needed based on field observations. The sampling density for sidewall sampling was greater than the proposed sampling density for assessing vertical extent of remediation in the engineered control areas. The rationale for the performance of composite samples for sidewalls of excavations (rather than a combined sidewall and bottom composite sampling scheme) was based on the fact that soil and sediment samples collected during the performance of contaminant delineation investigations indicated a degree of variability in comparison to a low degree of variability in samples collected from beneath the bottom sediments. This approach yielded data adequate to assess the lateral limits of excavation as sidewall samples were taken from undisturbed sediments and soils along the lateral limits of each excavation area and were not to be combined with aliquots from the bottom of excavations. Although sampling was to be performed at a rate of one sample per 320 square feet of sidewall of excavation, as a result of the size and irregular shape of remediation areas, each sidewall composite sample being representative of 270 square feet of excavation area. This represents a 15 percent increase in sampling density.

The approach for the verification of remediation in non-engineered control areas at the Site consisted of the collection of both composite and grab soil samples from the bottom and sidewalls of the excavation. Grab sampling is discussed above. Bottom composite sampling was performed at a rate of one sample per 1,600 square feet of excavation (20 by 20-foot grid spacing). Since the non-engineered control areas had to be remediated in a manner consistent with the RSRs, individual grab samples were also collected from the center of each of the 20 by 20-foot grid squares utilized for bottom composite sampling (a rate of one sample per 1,600 square feet of excavation area). In order to document the adequacy of the lateral extent of the remediation within these areas, soil grab samples were obtained from the sidewalls of the excavations at varying depths at a rate of not less than 1-sample per 320 square feet of excavation sidewall. This sampling pattern was enhanced with judgmental samples as needed based on field observations (i.e. stratification, discoloration, etc.).

3.1.2 Confirmatory Porous Media Sampling

3.1.2.1 Concrete Chip Samples

Concrete chip samples were collected as discussed in Section 4.0 in the RAWP and in accordance with the *Standard Operating Procedure for Concrete Chip Sampling* (LEA SOP ID 10001W, revised January 17, 2002). The SOP was revised to specify a one-half inch maximum sample depth and to present the laboratory procedures for sample processing as requested by EPA. The majority of concrete structures were demolished then excavated and disposed of along with the contaminated soil during the RA. However, some structures were left in place. Verification of remediation on concrete structures left in place was performed by measuring, sketching, gridding and sampling of the subject areas. Sampling was performed at a rate of one discrete sample representing a 320+/- square foot area, which equated to a 3 by 3- meter grid spacing. Samples were collected from each of the discrete sampling locations through the use of an impact drill equipped with a stone chisel inserted through the center of a five-foot square section of plastic sheeting. Samples were obtained by chipping the surface to a maximum depth of one-half inch. At the laboratory, the chips were crushed into a ubiquitous granular material and then extracted and analyzed for PCBs in accordance with EPA Method 8082. A second portion of the sample was collected and used to determine the percent dry weight of the sample. The oven-dried aliquot was not used for analytical determination.

3.1.2.2 Wood Samples

Wood sampling was limited to the wood retaining structures located along the western portion of the Lower Willow Brook Pond. Verification of remediation on wood structures left in place was performed by sampling using a representative grid. Samples were collected from each of the discrete sampling locations and analyzed for PCBs in accordance with EPA Method 8082. Sampling procedures and density for wood materials were completed in general accordance with the *Standard Operating Procedure for Concrete Chip Sampling* except that a rotary drill with a 7/8-inch core-sampler was used to collect the samples to a depth of 2.5 inches. Sampling was performed at a rate of one discrete sample representing each 20-linear feet of wood retaining wall, which equates to one sample per 80 square feet.

3.1.3 Confirmatory Non-Porous Media Sampling

Post excavation non-porous material (sheeting, shoring, conduits, pipes, etc.) samples were collected to confirm the successful implementation of the RA and document residual contamination concentrations.

3.1.3.1 Metal Wipe Sampling

Non-porous materials samples were collected as discussed in Section 4.0 in the RAWP and in accordance with the project-specific SOP titled *Standard Operating Procedure for Wipe Sampling* (LEA SOP ID 10058W, initiated December 15, 2001). As with the concrete structures noted above, the majority of the known non-porous materials in contact with PCB contaminated soil was demolished then excavated and disposed of along with adjacent soil. However, some of the structures were left in place for reuse. The approach for the verification of remediation on non-porous surfaces at the Site consisted of the collection of individual wipe samples from the surfaces of the materials that were determined to be in contact with PCB contaminated soils. Wipe sampling of non-porous surfaces was performed on 10 cm^2 areas within 1-meter grid nodes. Wipe sampling was performed in strict accordance with the SOP. The procedure for the collection of post-excavation PCB confirmatory wipe samples from non-porous materials involved measuring, sketching and gridding a 1 by 1-meter grid. Grid nodes were randomly selected to cover 10 percent of the total surface area using a random number generator. A standard-size template (10 cm x 10 cm) was used to delineate the area for wiping. A 2-inch square sterilized gauze pad was saturated with hexane. The wipe was stored in sealed glass vials until it was used for the wipe test. The pad was used to thoroughly wipe over the sampling surface exposed inside the template. The wipe was performed quickly after the hexane was exposed to the air. The pad was then deposited into a clean, labeled 4-ounce jar for shipment to the laboratory and analyzed in accordance with EPA Method 8082.

3.1.4 Disposal Characterization Sampling

Soil/sediment and concrete samples were collected for disposal characterization to verify constituent concentrations. Contaminated soil and sediment was characterized for disposal on the "as-found" concentration of PCBs in accordance with 40 CFR 761.61. The data was used to establish the basis for segregation within the staging areas. Additional analysis was performed on stockpile grab samples as needed to satisfy the disposal vendor requirements. Additional analytes beyond PCBs were included as necessary for thorough characterization. Additional analyses were included for metals, VOCs, SVOCs, pesticides, herbicides, TPH and cyanide.

3.1.5 Dewatering Wastewater Effluent Sampling

Miscellaneous dewatering wastewater samples were collected for the assessment of disposal options and/or treatment performance (e.g. the temporary wastewater treatment system) associated with the implementation of the RA.

Surface water or groundwater that entered the active remedial excavations and water generated from soil/sediment dewatering activities were pumped to on-site storage tanks and treated on Site at a temporary wastewater treatment system. During normal operation of the system, effluent samples were collected and analyzed for specific parameters as required by the Temporary/Emergency Discharge Authorization (EA). Effluent samples were collected and analyzed in accordance with the frequency requirement specified by the EA to confirm that discharge permit limits were achieved.

3.1.6 Decontamination Sampling

Decontamination of steel sheet piles that had been in contact with contaminated soil and sediment were accomplished by performing a double wash, double rinse procedure as described in the Addendum to the RAWP (Addendum No. 1, June 27, 2002, Revised July 2, 2002) titled *Decontamination Procedures for Steel Sheet Piles & Sampling Procedures for Steel Sheet Piles.* Sampling was performed to verify that the sheets did not exhibit PCB concentrations greater than 10 µg/100 cm^2 after the decontamination procedure.

3.1.6.1 Sampling Procedures for Sheet Piles

During the period from July 10, 2002 to August 7, 2002, numerous decontamination confirmatory samples were obtained from the sheet piles. The composite confirmatory sampling was completed in strict accordance with the RAWP modification approved by the EPA. The modification was requested as: 1) the use of petroleum based solvents approved in 40 CFR 761.79(c) – Self Implementing Decontamination Standard to decontaminate over 40,000 square feet of sheet piles would have been difficult to manage at the Site; 2) would have resulted in the generation of thousands of gallons of waste solvent; and 3) the fact that trial decontamination using a single pass with water applied with a pressure washer resulted in significant reduction of residual contamination on the sheet piles. In addition, a request was also made to approve a project-specific 1 µg/100 cm^2 standard for reuse of materials in contact with food or drinking water as a concern was raised that there was no promulgated numeric criteria for such a potential reuse.

A double wash, double rinse approach augmented by wipe sampling, which had been approved by EPA on a project specific basis, and is a combination of the federal regulations 40 CFR 761.79(b) – Measurement Based Decontamination Standard, and 40 CFR 761.79(c) – Self Implementing Decontamination Standard was implemented to decontaminate the sheet piles. The wipe sampling analytical data indicated that all sheet piles were decontaminated to a standard of less than 10 µg/100 cm^2 total PCBs, which is the standard for unrestricted use for

non-porous surfaces in contact with liquid PCBs as described under 40 CFR 761.30(u)(2). Of the 195 sheet piles, 105 were decontaminated to a standard of less than 1 μg/100 cm^2 total PCBs.

3.1.7 Sample Handling and Documentation

Appropriate sample containers, preservation methods, and laboratory holding times were in accordance with the applicable EPA methods. A six-digit designation code and sample date was used to create a unique sample identification number. The sample identification numbers appeared on the labels affixed to each sample containers. The following designation codes were used: WT to indicate the sample was collected from the waste treatment area (a designation for a predefined area of the Pratt & Whitney East Hartford facility), CS to indicate the sample was a confirmatory sample, DC to indicate the sample was a disposal characterization sample, and EW to indicate the sample was an effluent water sample. Blind sample numbers were assigned to samples submitted for quality assurance/quality control (QA/QC) purposes. The blind sample numbers were associated with sample location designations only in the field forms.

The filled, labeled, and sealed containers were placed in a cooler with ice and packed to eliminate the possibility of breakage. Samples were packaged by the field personnel and transported as low concentration environmental samples. The packaged samples were shipped either by a Premier Laboratory courier or hand delivered by field personnel. Samples were delivered to the laboratory with 36 hours of sample collection. Samples remained in an on-site refrigerator that was strictly dedicated for field samples until they were transferred to a cooler for shipment. The refrigerator was maintained at 4°C (+/- 2°C). Chain of custody forms and LEA field forms were filled out in accordance with the appropriate sampling SOPs. All samples were shipped under chain-of-custody procedures. All LEA field forms were maintained on-site in field documentation notebooks.

3.1.8 Management of Sampling-Related Materials and Wastes

The handling of sampling related materials and wastes are discussed below.

3.1.8.1 Disposable Equipment and Debris

Disposable equipment and debris, such as health and safety equipment, plastic sheeting, sampling equipment, and other equipment and/or sampling debris not reused during the RA was collected in plastic bags during the sampling and disposed of as PCB remediation waste (PCB>50 mg/kg) and were included in the soil loads in accordance with the miscellaneous health and safety (H&S) waste provisions permitted under the standard disposal profile.

3.1.8.2 Decontamination Rinsate

Decontamination rinsate was containerized at a controlled, centralized location in an appropriate temporary storage container or in labeled 55-gallon drums. Upon completion of the field sampling activities, the rinsate was treated to comply with maximum allowable concentrations stipulated in the EA, prior to discharge in the sanitary sewer.

3.1.9 Field Sampling Quality Assurance and Quality Control

Several types of QA/QC samples were collected throughout the RA to confirm the reliability and validity of the field data gathered during the course of the investigations. Field QA/QC samples were collected at a frequency of one per twenty samples and submitted to the laboratory for analysis. In order to maximize precision, accuracy, representativeness, completeness and comparability of the field data, the established protocols presented in the FSP and the Quality Assurance Project Plan (QAPP) were strictly adhered to. QA/QC samples collected during the RA included field duplicates, equipment blanks, trip blanks, double blind performance samples and matrix spike/matrix spike duplicate samples.

Field duplicate samples were submitted at the rate of one for every twenty samples, per matrix. Field duplicates were collected as collocated samples. Free water was wicked away using an absorbent pad and larger grained particles (gravel and cobbles) were removed to promote homogeneity. Soil samples were thoroughly homogenized and transferred to the appropriate sample containers and the samples were placed into a cooler containing ice. Duplicate concrete samples were thoroughly mixed then transferred to appropriate containers. Care was taken to evenly distribute the chips into two sample jars. The sample containers were placed in an iced cooler. Duplicate wipe samples were collected by wiping a surface area adjacent to the original sample location using the same procedure. Care was taken to select similar wipe surface characteristics (such as rust, paint, discolorations, etc.) for duplicate sample locations. Wipe samples were placed in appropriate sample containers and placed into a cooler containing ice.

Field duplicate data were used to provide information about the reproducibility of the sampling technique and information about precision with respect to homogeneity and distribution of contaminants.

Equipment blanks were collected and the data were used to provide a measurement of potential cross-contamination sources and decontamination efficiency. They were collected at a frequency of one per twenty samples for each representative type of equipment used (i.e. templates, chisels, spoons, bowls, etc.) Equipment blanks were prepared in the field by pouring laboratory supplied analyte-free water into or over decontaminated sampling equipment and then directly into the

laboratory supplied sample bottles. Equipment blanks for wipe samples were collected by placing hexane on the wipe gauze and then wiping the surface of a disposable template.

Trip blanks were collected at a frequency of one every twenty samples or one per cooler per day to ensure that the samples were not contaminated by VOCs while in transit to the laboratory. Trip blanks were not included in sample delivery groups that did not contain samples for VOC analyses as described in the RAWP.

Aqueous performance evaluation samples were submitted at a rate of one per twenty samples for each matrix type (i.e. soil, concrete, wipe, etc.). Aqueous performance samples were submitted in order to maintain the double blind status of the sample. Solid performance evaluation samples were evaluated at the beginning of the project and determined to be unsuitable because they looked obviously different than the samples collected from the site. Performance samples were included to ensure that the associated field data resulted in the delivery of analytical data of known and documented quality, suitable for use in meeting the RA objectives for which they were intended. The analytical results obtained from the laboratory for the PE sample data were compared with the vendor-certified acceptance limits. The results of this comparison were used to score each analyte with a pass, fail, and false negative or false positive score. The PE data were used to assess the overall accuracy and bias of the analytical methods being used including information about the magnitude and direction of a bias. The PE data were also used to provide an indication of overall laboratory performance.

An overall assessment of the QA/QC samples with respect to data quality indicators and measurement performance criteria is discussed in Section 4 of this report.

3.2 Documentation

Field sampling personnel maintained documentation for all aspects of field sampling, field analysis, and sample chain-of-custody procedures. The records allowed reconstruction of all field events and aided in the data review and interpretation process. All field documentation records were retained in a project file. The following forms were maintained throughout the RA: daily production forms, sampling information, chain-of-custody records, and field equipment calibration and maintenance logs.

Daily production and activities related to field sampling were documented using daily field forms. Detailed notes were recorded on sample information logs concerning the sample location, physical observations, sample depths, and weather conditions and the information. Chain-of custody forms were maintained by personnel responsible for sample custody at all times. The forms provided a record of responsibility for sample collection, transport, and submittal to the

laboratory. In order to document calibration and maintenance of field instrumentation, calibration and maintenance logs were maintained for each piece of field equipment. All field and analytical data were maintained in a site-specific electronic database. The database contained all characterization data obtained during the investigations.

3.3 Samples Submitted for Laboratory Analysis

Confirmatory sampling was conducted throughout the project as necessary to document the adequacy of the remedial measures and to confirm that the residual PCB concentrations did not exceed the RA objectives. The various types of confirmatory sampling and the number of samples per media are discussed below.

3.3.1 Confirmatory Soil and Sediment Sampling

As stated on Tables 4-1 and 4-2, included in the RAWP, a total of 197 PCB confirmatory soil/sediment samples were to be collected and analyzed, which were to include a minimum of 121 PCB composite samples and 76 PCB grab samples. Due to an increased excavation area, a total of 582 PCB confirmatory soil/sediment samples were actually collected during the RA activities, which included 328 PCB composites samples and 254 PCB grab samples. It was also stated on Tables 4-1 and 4-2, included in the RAWP, that a minimum of 76 confirmatory soil/sediment samples were to be collected for other parameters which included VOCs, SVOCs, metals, TPH and cyanide. An average of 233 confirmatory soil/sediment samples were actually collected for these other parameters.

3.3.2 Confirmatory Non-Porous Media Sampling

The majority of the known non-porous materials in contact with PCB contaminated soil was demolished then excavated and disposed of along with adjacent soil. However, some of the structures were left in place for reuse. The approach for the verification of remediation on non-porous surfaces at the Site consisted of the collection of individual wipe samples from the surfaces of the materials that were determined to be in contact with PCB contaminated soils. A total of 63 PCB wipe samples were collected during the RA. All wipe samples, with the exception of two, were collected in the Lower Willow Brook Pond Area specifically in areas 06, 08 and 11. Two wipe samples were collected in the Upper Willow Brook Pond Area, specifically in Area 03.

3.3.3 Confirmatory Porous Media Sampling

As with the non-porous materials, the majority of concrete and wood structures were demolished then excavated and disposed of along with the contaminated soil during the RA. However, some

structures were left in place. The approach for the verification of remediation on concrete and wood structures left in place was performed by collecting appropriate samples at the subject areas. A total of eight concrete chip samples were collected. Six samples were collected in the Lower Willow Brook Pond Area in Areas 07 and 11 and two samples were collected in the Upper Willow Brook Pond Area in Area 03. Twenty-four wood samples were collected from a wooden structure just below the dam in the Lower Willow Brook Pond Area. A 10-foot by 6-foot area was removed from this structure. The remaining structure was sampled to confirm that the structure left in place met the RA objectives.

3.3.4 Disposal Characterization Sampling

According to Table 4-1 included in the RAWP, disposal characterization samples were to be collected at a minimum of 24 samples or as required by the disposal facility. A total of 109 disposal characterization samples were collected. Disposal characterization samples included sediment, soil, concrete chip, wipe, sludge, and paint chip samples.

3.3.5 Dewatering Wastewater Effluent Sampling

Temporary wastewater treatment system effluent samples were to be collected as required by permit. Forty-three wastewater samples were collected and analyzed prior to discharge.

3.4 Samples for Screening Analysis

Field screening analysis was performed using PCB immunoassay screening tests kits. The PCB field test kits, a semi-quantitative screening method was used to determine whether the total PCB concentration was above or below the specified threshold values by comparison with a standard. Rapid immunoassay screen tests were not used to determine final compliance with the RA objectives, rather they were used as a means to direct the need for further excavation prior to embarking on final confirmatory sampling and analysis at a fixed laboratory in accordance with the procedures outlined above. The immunoassay screening was performed in accordance with the standard operating procedures for PCB field test kits provided by the manufacturer. Final confirmatory samples were submitted to the laboratory for analysis for PCBs (EPA SW-846 Method 8082 revised Jan. 1998).

4. QUALITY CONTROL AND PERFORMANCE EVALUATION METHODS

Data Quality Indicators (DQIs) and measurement performance criteria (MPCs) were tracked throughout the duration of the project to ensure that the analytical data generated for the delineation and removal of selected soils and sediments associated with the remediation of PCB contaminated sediment within Willow Brook and Willow Brook Pond were of sufficient quality and sufficient quantity to form a sound basis for decision making purposes relative to the RA objectives for the Site. An assessment of the overall precision, accuracy, representativeness, comparability and completeness of the post-excavation confirmatory data is presented in subsequent sections of this report.

4.1 Sample Analysis and Quality Control Samples

Post-excavation confirmatory sampling was conducted to confirm that residual concentrations of contaminants present at the limits of excavations in the excavated areas were below the RA objectives. A total of 772 confirmatory samples were collected during the period from July 2001 through August 2002. Confirmatory samples included soil/sediment, wipe, concrete, and wood samples. Included in this number are samples originally collected as confirmatory but later removed because the analytical results did not meet the RA objectives. Ninety-five samples were removed from the confirmatory list of samples, due to the excavation, leaving a total of 677 final confirmatory samples for the project. All QA/QC and data validation assessments were performed on the 772 samples originally destined to be confirmatory.

All post-excavation confirmatory samples were analyzed by Premier Laboratory, LLC of Dayville, CT (PH-0465). The confirmatory samples consisted of soil/sediment, concrete, wipe and wood samples and were analyzed for PCBs, VOCs, SVOCs, metals, TPH and cyanide. A list of all confirmatory samples is presented in Table 4-1.

Premier Laboratory performed analyses for PCBs in accordance with QA/QC procedures as described in EPA SW-846 Method 8082. The laboratory generally performed the confirmatory analyses within a 24-hour turnaround time.

The laboratory also performed analyses in accordance with QA/QC procedures as described in the following analytical methods: VOCs by EPA SW-846 Method 8260B (Dec. 1996), SVOCs by EPA Method 8270C (Dec. 1996), metals by EPA SW-846 Method 6010B (Dec. 1996), cyanide by EPA Method 9012A (Dec. 1996), and TPH by EPA Method 418.1 (1978). These parameters were collectively referred to as the "other" parameters throughout the project. The

confirmatory analyses for "other" parameters were generally analyzed within a 72-hour turnaround.

4.2 Confirmatory Soil Samples

A total of 582 confirmatory soil/sediment samples were analyzed for PCBs, which included 328 PCB composites samples and 254 PCB grab samples. An average of 233 samples were analyzed for the other parameters. The analytical results for 95 soil/sediment samples did not meet the RA objectives and therefore subsequent excavation and soil removal was performed in the areas represented by those samples. These samples were removed from the final confirmatory sampling list. A summary of soil samples removed from the confirmatory sample list is presented in Table 4-2.

4.3 Confirmatory Concrete Chip Samples

Eight confirmatory concrete chip samples were analyzed for PCBs. One concrete chip sample was analyzed for the other parameters.

4.4 Confirmatory Wood and Wipe Samples

Sixty-three wipe samples and 24 wood samples were analyzed for PCBs for confirmatory analyses.

4.5 Quality Control Samples

Both field and laboratory quality control checks were implemented during the RA. The laboratory performed all analytical methods in accordance with the appropriate EPA approved methods. Field and laboratory quality control checks consisted of the following: field duplicates, equipment blanks, method blanks, matrix spike / matrix spike duplicates, laboratory duplicates, laboratory control samples, calibration standards, surrogates, internal standards, GC/MS tuning, system performance checks and double blind performance evaluation samples. Measurement performance criteria and frequency requirements for the quality control data were evaluated in order to make an overall assessment of the accuracy, precision, representativeness, comparability and completeness of the confirmatory sample data. The results of this evaluation are presented below.

4.5.1 Field Duplicate Samples

4.5.1.1 Confirmatory Soil Samples

Duplicate samples were collected as discussed in the FSP and submitted to the laboratory as blind QC samples. The field duplicate data were evaluated to measure the cumulative effects of both field and laboratory precision and hence provide an indication of overall precision and representativeness.

Precision was measured by calculating the relative percent difference (RPD) for detects in a field duplicate pair when a compound was reported at greater than two times the sample quantitation limit in both samples. Measurement performance criteria for field duplicate precision were met when the RPD was less than or equal to 50 percent for non-aqueous samples. If the RPD exceeded 50 percent, the data validator qualified the results for the affected compound in both samples. Technical judgment was applied when one result was greater than two times the detection limit and the other result was non-detected or less than two times the detection limit.

PCBs: Thirty-nine field duplicates pairs were submitted with PCB confirmatory soil/sediment samples. Field duplicates were submitted at a frequency of one per 20 samples, which met the QA/QC frequency requirement of one field duplicate per 20 samples. A summary of field duplicate data for PCBs in soil samples is presented in Table 4-3.

The RPDs ranged from 0 percent to 118 percent for the confirmatory soil samples for PCBs. Overall, approximately 63 percent of the PCB field duplicate data in soil samples did not meet the measurement performance criteria for precision. Results that did not meet precision criteria were qualified as estimated concentrations. Usability of qualified data was determined by comparing the higher of the two estimated concentrations in each duplicate pair with the corresponding action level for the area of the Site from which they were obtained. For example, duplicate sample identification numbers 2001199 and 2001200 collected from Area 02 were reported with concentrations of 0.065 mg/kg and 0.022 mg/kg respectively. Although the RPD for the duplicate results was 99 percent, which did not meet the duplicate precision requirement of less than 50 percent, the action level for the area of the Site from which they were collected was 25 mg/kg. The results were considered usable for meeting the RA objectives of the project even though they were not technically precise.

It should be noted that results for Aroclor 1254 and 1260 were reported as ND<45 µg/kg in sample ID number 2001512. The duplicate sample ID number 2001513 reported concentrations of Aroclors 1254 and 1260 as 14,000 µg/kg and 10,000 µg/kg respectively. The RPD was not

calculated since one result was non-detect and the corresponding result was much greater than two times the sample quantitation limit. Technical judgment was used to qualify the results based on poor duplicate precision. Due to the high degree of variability in the duplicate sample results, a second duplicate sample pair was collected from the same location (sample ID numbers2001539 and 2001540). The analytical data for the resample duplicate pair were ND<48 µg/kg for all Aroclors. Therefore, the results of the second duplicate sample pair, which more accurately reflected the actual conditions at this location, were used as confirmatory samples.

"Other" Parameters: Sixteen duplicate pairs were submitted for "other" parameters. Field duplicates were submitted at a frequency of one per seventeen samples for "other" parameters, which met the QAQC frequency requirement of one field duplicate per twenty samples. A summary of field duplicate data for "other" parameters in soil is presented in Table 4-4.

Overall, the percentage of data by analytical group for "other" parameters in soil samples that met the criteria for duplicate precision is as follows: SVOCs 64 percent, Metals 74 percent, and TPH 29 percent. Statistically, the overall precision for VOCs and cyanide could not be determined because of the limited amount of data available for these analytical groups. It should be noted that the frequency requirement was met for VOCs and cyanide, but there were not enough results detected at greater than two times the detection limits, in both duplicate samples, to be used to calculate the RPD. Naphthalene was the only VOC detected in the sixteen duplicate pairs of samples that had results above the quantitation limit in both duplicate samples. Naphthalene had an RPD of 55 percent, which technically did not meet field duplicate precision criteria for that one sample. Only one duplicate pair had cyanide results, which were reported above the sample quantitation limit in both samples. The RPD for cyanide in that duplicate pair was 11 percent, which technically did meet duplicate precision criteria.

All results that did not meet precision criteria were qualified as estimated concentrations. Usability of qualified data was determined by comparing the higher of the two estimated concentrations in each duplicate pair with the corresponding action level for the area of the Site from which they were obtained.

4.5.1.2 Confirmatory Concrete Chip Samples

One field duplicate pair was submitted for concrete chip samples. The frequency at which the duplicate sample was collected was one field duplicate per eight concrete chip samples, which met the project goal of one per twenty. No comment can be made on field duplicate precision for concrete samples since there is only one duplicate sample. A summary of field duplicate data in concrete chip samples is presented in Table 4-5.

4.5.1.3 Confirmatory Wipe and Wood Samples

Five field duplicates for wipe and wood were collected collectively. The frequency at which the field duplicates were collected was one per seventeen, which met the project goal of one per twenty. Only one sample had detects reported for the same Aroclor in both duplicate samples. The RPD for the results was 131 percent, which did not meet precision criteria of less than 50 percent. No comment can be made on the overall precision of the field duplicate data for wipe and wood samples because of the limited data set. A summary of field duplicate data for PCBs is presented in Table 4-6.

4.5.2 Equipment Blank Samples

Equipment blanks were used to monitor the cleanliness of sampling equipment and the effectiveness of the decontamination procedure. The frequency requirement for equipment blanks for the project was one per twenty samples. The measurement performance criteria for equipment blanks was such that no target compound should be present at or above the sample quantitation limit in any given equipment blank.

4.5.2.1 Confirmatory Soil Samples

Equipment blanks are generally prepared by filling sample containers with analyte free water, which has been routed through a cleaned sampling device. Since dedicated sampling equipment was used for the collection of confirmatory soil samples, no equipment blanks were required.

4.5.2.2 Confirmatory Concrete Chip Samples

Equipment blanks for confirmatory concrete chip samples were collected by passing analyte free water over the cleaned sampling device. One equipment blank for concrete chip sampling was collected (sample ID 2002504). Equipment blanks were collected at a frequency of one per eight samples, which met the project goal of one per twenty. Measurement performance criteria were met since no detects were reported above the sample quantitation limit.

4.5.2.3 Confirmatory Wipe Samples

Equipment blanks for confirmatory wipe samples were collected by wiping the surface of a disposable template with a hexane soaked gauze pad then analyzing the pad. Three equipment blanks were collected (sample IDs 2001699, 2001717, 2001749) for wipe samples. The blanks were collected at a frequency of one per 21 samples, which exceeded the project goal of one per twenty by one sample. No detects were reported above the quantitation limit in the equipment blanks.

4.5.3 Trip Blank Samples

Trip blanks were prepared by Premier Laboratory, Inc., using ultra-pure deionized water and submitted to the sampling team whenever bottleware was delivered. The trip blanks were routinely analyzed for VOCs and were submitted along with the other parameters. A trip blank accompanied all project samples through all custody changes in possession, coolers and refrigerators. The trip blanks were never opened by the sampling team. The trip blank data was used to assess whether contamination occurred during sampling, packaging, shipping and/or storage.

Trip blanks were included with all coolers containing VOC samples. Approximately fifty-four trip blanks were submitted with the confirmatory soil samples. The trip blanks were submitted at a frequency of one per four samples, which met the project goal of one per 20 or one per cooler containing samples to be analyzed for VOCs. Measurement performance criteria were met since no detects were reported above the quantitation limit.

4.5.4 Performance Evaluation Samples

Double blind aqueous performance evaluation (PE) samples were submitted to Premier Laboratory, Inc. with each sample type (soil, concrete, wipe and wood samples). The PE samples data were used to assess the overall accuracy and bias of the analytical methods being used and provide an indication of overall laboratory performance. The PE samples data also provided information about the magnitude and direction of quantitative bias for the laboratory methods, including sample preparation (extraction and cleanup) and analysis (chromatography and calibration). The PE samples were evaluated for false negatives, false positives, and inaccurate target compound quantitation. Performance evaluation sample certified values and analytical results are included in Appendix A.

All PE samples for this project were prepared by Environmental Resource Associates (ERA) of Arvada, Colorado. All results for PE samples were compared with vendor-certified acceptance limits. The PE samples results were evaluated for pass and fail. Fails were categorized as bias high, bias low, false negatives and false positives.

PE samples were submitted at a frequency of one per twenty for confirmatory soil samples. PE samples were submitted at a frequency of one per seven for PCBs in concrete chip samples, and at one per twenty for PCBs in wipe and wood samples, collectively. The project goal of one per twenty for PES samples frequency was met for all sample matrices.

Approximately 94 percent of all PES results were reported within vendor-certified acceptance limits. Ninety-five percent of all PCB results passed. Less than one percent of all PE sample results were reported as false positives, and no false negatives were reported. No false positive or false negatives were reported for PCBs. Approximately 40 percent of the PE samples analyzed for TPH were not within vendor-certified acceptance limits. ERA, the vendor who supplied the PE samples, Premier, and the data validator were aware of the trend for high percent recovery in the TPH PE samples, and the three parties worked together to try to determine the root of the problem. A split TPH PE sample was analyzed by both ERA and Premier (ERA PE lot # 0104-02-08.3) on January 9, 2002. Both laboratories reported TPH results within acceptance limits for this particular sample. Although a definitive explanation was never concluded, it was suggested that the problem may have been due to an incompatibility of reference oils used by the two laboratories. Since the trend for the failed PE results was biased high (generally 150-160 percent recovery), the associated data were qualified (bias high) and were considered to be usable data. An assessment of PE samples data is presented in Table 4-7.

4.6 Analytical Data Reporting and Data Validation

A Tier II data validation was performed on 100 percent of the post excavation confirmatory soil/sediment samples, concrete chip samples, wipe and wood samples. LEA performed the validation in accordance with the *Region I, EPA-New England Functional Guidelines for Evaluating Environmental Analyses*. Confirmatory analytical results and data validation reports for the Upper Willow Brook Pond are included in Appendix B. Confirmatory analytical results and data validation reports for the Oil/Water Separator and Process Water Facility Area are included in Appendix C. Confirmatory analytical results and data validation reports for the Lower Willow Brook Pond are included in Appendix D. Confirmatory analytical results and data validation reports for the Willow Brook Stream Channel and Wetland are included in Appendix E.

Tier II data packages for all confirmatory data were sent via email from Premier to LEA. The data packages included Form I's and all applicable Contract Laboratory Program (CLP)-like forms necessary to complete validation of the requested EPA methods. Copies of the field sampling records and chains of custody were provided by the LEA management team. The Tier II validation process consisted of data verification, data validation and a data usability assessment.

- Data verification involved evaluating the completeness, correctness, and conformance of the data sets against the method standard, SOP, or contract requirements as documented in the QAPP.

- Data validation was performed to determine the analytical quality of each data set and to provide data of known and documented quality. Validation criteria were based on the Region I functional guidelines and on the measurement performance criteria as presented in the RAWP in Table 5-6 of the QAPP. Data verification and data validation resulted in accepted, qualified or rejected data.

- A data usability assessment was performed in conjunction with the LEA management team to determine if the data could be used for decision-making purposes based on the RA objectives of the project.

The results of each Tier II data validation were documented in a written report. Qualification decisions including details about the magnitude and direction of biased results were documented and communicated on a real time basis to the management and the field sampling team and were assessed with respect to the RA objectives.

4.6.1 Representativeness

Representativeness is the degree to which sampling data accurately and precisely represents the Site conditions, and is dependent on sampling and the variability of environmental media at the Site. The sampling program was designed to assess the presence of the chemical constituents at the time of sampling. Representativeness was measured through data collected for field duplicates. Duplicate samples were consistently collected as discussed in the FSP and submitted to the laboratory as blind QC samples. The field duplicate data were evaluated to measure the cumulative effects of both field and laboratory precision and hence provide an indication of overall precision and representativeness.

Overall, field duplicate data suggests that there was a potential for variability (>50 percent RPD) in the results based on the environmental media (i.e., soil/sediment samples, etc.) at the Site. However, it was also determined that the variability was generally greater at concentrations that were well below the action levels for the Site. When precision was poor for duplicate results reported near the action levels, usability of the data was carefully assessed on a case-by-case basis.

4.6.2 Comparability

Comparability is the degree of confidence with which one data set can be compared to another. Comparability throughout the remedial activities was maintained through consistent use of the sampling and analytical methodologies as set forth in the QAPP and the FSP through the use of

established QA/QC procedures, use of the data management system and the utilization of appropriately trained personnel. Inter-laboratory splits were not used during this project.

4.6.3 Completeness

Completeness is defined as a measure of the amount of valid data obtained from an event compared to the total amount that was obtained. Percent completeness was calculated for all confirmatory soil/sediment, concrete, wipe and wood samples. Percent completeness was calculated by comparing the ratio between the total number of rejected measurement points versus the total number of measurements and compared with the measurement performance criteria. Overall, the total percent completeness for all confirmatory data associated with the project was 99, which met the goal for measurement performance criteria of 85 percent. The total percent completeness for critical data, which specifically included all confirmatory PCB data, was 100 percent, which met the goal of 100 percent for measurement performance criteria. Percent completeness by compound is presented in Table 4-8.

4.6.4 Precision

Precision is a measure of the reproducibility of sample results. Specific sampling and analytical procedures were adhered to for the remedial activities in order to maximize precision. Analytical precision was evaluated through the analyses and calculation of the RPD for matrix spike/matrix spike duplicates (MS/MSD), laboratory duplicates, and field duplicates. The RPDs were compared to the appropriate measurement performance criteria and data, which did not meet the acceptance criteria, and were qualified accordingly. MS/MSDs were analyzed with each data set, which met the goal for measurement performance criteria of one per twenty samples. All MS/MSDs were performed on site-specific samples and were analyzed in the same analytical batch as the unspiked sample. The MS/MSD results were used to determine laboratory precision and method bias for specific sample matrices at the time of sample preparation and analysis. Frequency requirements and measurement performance criteria were met for laboratory duplicates and field duplicates.

4.6.5 Accuracy

Accuracy is a measure of how close a measured result is to the true value. Both field and analytical accuracy was monitored through data collected for initial and continuing calibrations, reference standards, MS/MSDs, blanks and blank spikes, laboratory control spikes, surrogate standards and performance evaluation samples. All of the above were evaluated in each analytical batch as applicable in accordance with the Region I data validation functional guidelines and compared with the measurement performance criteria. Results that did not meet

the MPCs for each analytical batch were qualified accordingly, documented in a validation report and communicated to the end-user. Data usability of qualified results was assessed based on whether the bias was high or low and how close the results were to the action level.

4.7 Data Assessment Summary

In general, the data generated for the delineation and removal of selected soils and sediments associated with the remediation of PCBs contaminated sediment within Willow Brook and Willow Brook Pond were of sufficient quality and sufficient quantity to form a sound basis for decision making purposes relative to the RA objectives for the Site. The overall percent completeness for all confirmatory data associated with the project was 99 percent, which met the measurement performance criteria of 85 percent overall. Less than 1 percent of all confirmatory data were rejected. Less than 8 percent of all confirmatory data were qualified. The measurement performance criteria for all critical data met the project goal of 100 percent complete. Ninety-four percent of all performance evaluation sample data were within vendor-certified acceptance limits and 95 percent of all PCB performance data were within vendor-certified acceptance limits. Precision for field duplicate data was below the measurement performance criteria, however precision for MS/MSDs, laboratory duplicates, and blanks indicated that the laboratory was operating within control and that there were issues concerning the homogeneity of the environmental media at the Site.

All confirmatory data were validated according to *Region 1 Data Validation Functional Guidelines for Evaluating Environmental Analyses*. A percent completeness data assessment, which consisted of calculating the ratio between rejected data (not valid data) and the total number of data points obtained for each confirmatory sample type in each remediation area is discussed below. An overall percent completeness assessment includes analyses for all parameters (PCBs and other parameters). Percent completeness for critical data includes an assessment of only PCBs data.

4.7.1 Confirmatory Soil and Sediment Sampling

Confirmatory soil/sediment samples consisted of grab, composite and removed soil samples. The overall percent completeness (PCB and other parameters) is as follows: 98 percent complete in the Oil/Water Separator Area, 94 percent complete in the Lower Willow Brook Pond Area, 92 percent complete in the Upper Willow Brook Pond Area and 97 percent complete in the Wetland Area. The percent completeness for critical data (PCBs) is as follows: 100 percent complete in the Oil/Water Separator Area, 100 percent complete in the Lower Willow Brook Pond Area, 100 percent complete in the Wetlands Area and 93 percent complete in the Upper Willow Brook Pond Area.

4.7.2 Confirmatory Non-Porous Media Sampling

Confirmatory non-porous media sampling consisted of metal wipe samples. Non-porous media samples were only submitted for PCB analysis. The percent completeness for critical data is as follows: 100 percent complete in the Lower Willow Brook Pond Area, and 100 percent complete in the Upper Willow Brook Pond Area. (It should be noted that only two samples represented the data set for wipe samples in the Upper Willow Brook Pond Area. Statistically this data set is not significant). Non-porous media sampling was not conducted in the Oil/Water Separator Area or the Wetlands Area.

4.7.3 Confirmatory Porous Media Sampling

Confirmatory porous media sampling consisted of concrete chip and wood samples. Porous media samples were submitted only for PCB analysis with the exception of one concrete chip sample (sample location WT-CS-07-034), which was submitted for other parameters. The percent completeness for critical data is as follows: 100 percent complete for wood samples in the Lower Willow Brook Pond Area, 100 percent complete for concrete samples in the Lower Willow Brook Pond Area, and 100 percent complete for concrete chip samples in the Upper Willow Brook Pond. (It should be noted that only two concrete chip samples represent the data set for concrete chip samples in the Upper Willow Brook Pond and six concrete chip samples represent the data set for concrete chip samples in the Lower Willow Brook Pond.)

One concrete chip sample was submitted for other parameters. The overall percent completeness (although not statistically significant) was 78 percent. Porous media sampling was not conducted in the Oil/Water Separator Area or the Wetlands Area.

4.7.4 Disposal Characterization Sampling

Analytical results for disposal characterization were not required under the RAWP to undergo a Tier II data validation. Disposal characterization analytical results are presented in Appendix F.

4.7.5 Dewatering Wastewater Effluent Sampling

Analytical results for effluent samples were not required under the RAWP to undergo a Tier II data validation. Dewatering wastewater analytical results are presented in Appendix G.

4.8 Audits

Performance and system audits were performed in the field and by the laboratory in accordance with the RAWP. The LEA Project Manager in collaboration with the LEA Task Manager,

Quality Assurance Manager (QAM) and LEA Field Supervisors performed systematic and objective evaluations to ensure that the environmental data collection activities and related results complied with the Quality Assurance Project Plan included in the RAWP, were implemented effectively, and were suitable to achieve the RA objectives.

4.8.1 Readiness Reviews

Readiness reviews were conducted before technical activities such as sample collection, field work, survey activities, etc. to assess whether procedures, personnel, equipment and facilities were ready for the environmental data to be collected according to the QAPP. The LEA Management Team on a weekly basis implemented readiness reviews during on-site meetings.

4.8.2 Surveillance

Surveillance of remedial activities was conducted by the LEA Task Manager and the LEA Field Supervisor on-site on a daily basis to assess the real-time implementation of a field activity or activities to ensure conformance to established procedures and protocols.

4.8.3 Technical System Audits

Technical System Audits (TSA) were performed by the LEA Project Manager or person designated by the Project Manager shortly after commencing remedial activities to ensure that facilities, personnel, training, procedures and record keeping was in accordance with the QAPP.

4.8.4 Audit of Data Quality

Audits of data quality were performed on verified data to document the capability of the LEA, through the use of the LEA data management system (hardcopy and electronic) to collect, analyze, and interpret data in accordance with the QAPP. The LEA management team conducted data quality audits prior to final reporting to assess how the data were handled, what judgments were made.

4.8.5 Performance Audits

Performance audits were performed to quantitatively test the ability of the measurement systems to obtain acceptable results. The LEA Task Manager was responsible for monitoring field performance. Field performance audit summaries contained an evaluation of field measurements and field meter calibration to verify that measurements were according to established protocols. The QAM reviewed all field reports and communicated concerns to the Project Manager and/or Task Managers.

4.8.6 Internal System Audits

A field internal system audit was conducted to qualitatively evaluate all components of the field QA/QC procedures. Scheduled QA/QC activities were compared with actual QA/QC activities during the internal system audits.

4.8.7 Laboratory System Audits

The analytical laboratory performed internal audits on each method in accordance with NELAC (National Environmental Laboratory Accreditation Council) Standards.

4.8.8 Data Quality Assessment

The analytical data generated during the remedial activities was evaluated with respect to precision, accuracy and completeness and compared to the data quality objectives defined in the QAPP. An evaluation of validated data was performed to ensure that the data were of the right type, quality and quantity to support their intended use. Following the collection of field sampling and analytical data, various statistical analyses were performed to determine the data usability and sensitivity of the data. Data usability was measured through standard data validation procedures. The validation was performed in accordance with the Region I Functional Guidelines for Environmental Analyses. An assessment of the data sufficiency involved a comparison between actual samples collected with the number of samples stipulated in the RAWP.

4.8.9 Corrective Action

Upon completion of an audit, if corrective action measures were necessary, they were communicated as such to the LEA Project Manager and timely and effectively implemented by the appropriate project personnel.

memorandum, dated February 22, 2002, indicating that all comments had been addressed its satisfaction. The revised RAWP was subsequently approved by the DEP in a letter dated April 9, 2002.

5.1.1.2 US Army Corps of Engineers

Based on the phased investigation data, the work of this project was anticipated to involve the excavation of greater than 12,500 cubic yards of contaminated soil and sediment from within Willow Brook, Willow Brook Pond and the land bridge between the upper and lower ponds. The majority of the excavation activities planned, occurred within the two ponds, the wetlands west of the ponds, the streambed and the immediately adjacent areas. Since the construction activities planned would result in the disturbance of greater than 1-acre of wetlands within and immediately abutting the work, the acquisition of an individual permit from the ACOE was necessary prior to performing the remedial activities.

The permit application was filed on February 14, 2001. Minor modifications to the application package were made throughout the review period in response to the comments raised by various review authorities. As part of this permit application, a public notice was issued. The ACOE did not receive any substantive comments during the public notice period. The final permit was issued on July 24, 2001. The term and closeout conditions for this permit are presented in the table presented at the end of this subsection.

5.1.1.3 Connecticut Department of Environmental Protection

As previously noted, UTC/Pratt & Whitney reported a sheen observed during routine draining of Willow Brook Pond to the United States Coast Guard and the CTDEP in accordance with discharge reporting requirements. In response to this report and subsequent laboratory analysis of sediment samples, the CTDEP issued UTC/Pratt & Whitney a NOV, No. PCB 97-08, on November 7, 1997, followed by a Consent Order, SRD-130, that was signed by the Commissioner of the DEP on August 1, 2001.

The Consent Order required the preparation and approval of a detailed RAWP for the planned activities. The RAWP was initially prepared and submitted to the EPA and the DEP in late 2000. As described above, various modifications to the RAWP were made throughout the review period to address comments made by the DEP and the EPA. The RAWP was initially approved by the DEP in a letter dated August 3, 2001. The revised RAWP was subsequently approved by the DEP in a letter dated April 9, 2002.

The remedial approach to this project, as detailed in the RAWP, required a variance to the RSRs, under the provisions of 22a-133k-2(f). This variance request was made to the DEP on January 5, 2001. As part of the variance request, a public notice was issued. The DEP Permitting, Enforcement and Remediation Division did not receive any substantive comments during the public notice period. The Request for Variance, Engineered Control of Polluted Soils, was approved by the DEP in a letter dated August 3, 2001.

Prior to initiation of the construction activities and in order to validate the ACOE 404 permit, it was also necessary to obtain a certificate from the DEP Inland Water Resources Division (IWRD) for the excavation/placement of fill within the flood plain and wetlands pursuant to Section 401 of the Clean Water Act. The permit application was filed on February 14, 2001. The application to the IWRD was prepared and submitted on forms approved by the DEP and included: a permit application transmittal form; the permit application for programs administered by the IWRD; the technical documentation form; an executive summary; a USGS site location map; a listing of all adjacent property owners; a soil scientist's report; an engineering/hydrogeologic report; flood management consistency worksheets; an environmental report; an alternatives assessment; a flood contingency plan; and plans and drawings detailing the work.

Comments from the DEP on the application were received and addressed in a revised application submission. As part of this permit application, a public notice was issued. The DEP IWRD did not receive any substantive comments during the public notice period. The final permit was issued July 20, 2001. The term and closeout conditions for this permit are presented in the table presented at the end of this subsection.

In addition to the above certificate, two additional registrations for general permits were required to implement the project. The first was for the Discharge of Storm Water Associated with Construction Activity. This general permit allows for the discharge of storm water associated with construction activities that result in the disturbance of more than five contiguous site acres. A requirement of this general permit is the preparation of a Storm Water Pollution Control Plan (SWPCP). The SWPCP was prepared and submitted with the registration to the DEP as requested. The registration was validated upon issuance on July 11, 2001. The term and closeout conditions for this permit are presented in the table presented at the end of this subsection.

The second registration through the DEP was for a General Permit for the Discharge of Groundwater Remediation Wastewater to a Sanitary Sewer. This general permit allows for the

discharge of up to 50,000 gallons of treated groundwater remediation wastewater to the sanitary sewer each day. This registration was submitted to the DEP on May 25, 2001.

The Groundwater Remediation Wastewater General Permit was intended to address the treatment and discharge requirements for all wastewaters generated during implementation of the project, including dewatering wastewater. However, during the installation of well points associated with the dewatering system necessary to implement the excavation of contaminated soil and sediment in Upper Willow Brook Pond, it was determined that it was likely that significantly greater than 50,000 gallons of dewatering wastewater would be generated. As a result, on August 17, 2001, an application for an EA to discharge dewatering wastewater to the surface water was submitted to Donald Gonyea of the DEP. The Commissioner of DEP signed the EA allowing for the discharge of up to 1,008,000 gallons of dewatering wastewater to Willow Brook on September 6, 2001.

On October 4, 2001, a request was submitted to Donald Gonyea of the DEP for modification to Emergency Discharge Authorization (EA) EA0100182 to allow for the discharge of pretreated excavation dewatering wastewater to the Connecticut River via the UTC/Pratt & Whitney Colt Street Wastewater Treatment Facility (NPDES Permit Number CT-0001376) hereinafter referred to as Colt Street. The modification request was the result of the presence of zinc in groundwater at concentrations much higher than had been previously identified. The Commissioner of the DEP granted the modification to the EA on October 12, 2001 and modified the authorization number to EA0100182R. Additional details pertaining to the EA are presented later in this section.

Town of East Hartford

Prior to the initiation of construction activities, it was necessary to obtain three permits from the Town of East Hartford. The Town of East Hartford Inland Wetlands and P&Z Commissions issued these permits. The Inland Wetlands Commission permit was necessary prior to the performance of construction activities within wetlands or within specified distances from a wetland. The Inland Wetlands Commission issued an approval for the project following a public hearing on the application on April 24, 2001. Two permits were required through the East Hartford P&Z Commission; one for a Major Flood Hazard Zone Development permit and the second for a Soil Erosion and Sediment Control Certification. The P&Z Commission issued an approval for these applications following a public hearing on the application on June 27, 2001.

Summary of Permit Effective Dates

Permit	Start of Term	End of Term	Closeout Activities	Completion Date
Town of East Hartford Wetlands Permit	07/05/01	07/05/02	Following completion of the construction, as-built plans will be transmitted to the Wetlands Commission to provide documentation that the project is complete.	09/20/02
Town of East Hartford P&Z Major Flood Hazard Zone Development	06/27/01	07/05/02	Following completion of the construction, as-built plans will be transmitted to the P&Z Commission to provide documentation that the project is complete.	09/20/02
Town of East Hartford P&Z Soil Erosion and Sediment Control Certification	06/27/01	07/05/02	Following completion of the construction, as-built plans will be transmitted to the P&Z Commission to provide documentation that the project is complete.	09/20/02
Army Corps - 404 Permit	07/24/01	12/31/06	Following completion of the construction, as-built plans will be submitted to the ACOE to provide documentation that the project is complete. - Annual report for monitoring and maintenance activities, due by January 31 for prior year activities (for next 3 years) - Final Post-Construction Assessment due 5 years after completion	09/20/02 (partial)
DEP IWRD - 401 Water Quality Certification	07/20/01	12/31/06	Following completion of the construction, as-built plans for submission to the DEP to provide documentation that the project is complete (30 days after completion). -3 year monitoring program required and annual reports to be submitted to DEP IWRD.	09/20/02
DEP - Emergency Authorization	09/06/01	08/08/02	Following date of final discontinuation of the discharge, DEP must be notified in writing.	08/13/02
DEP – General Permit Stormwater Discharge and Dewatering Wastewaters	07/11/01	10/01/02	Following completion of construction weekly inspections, which shall extend for a three-month period, will be performed and brief reports shall be submitted to DEP. - Maintenance to be performed as needed to mitigate potential soil erosion and sedimentation.	09/20/02

5.1.2 Engineering and Design

Prior to implementation of the construction phase of the project, it was necessary to prepare a detailed set of construction drawings to guide the implementation of the project. The construction drawings were used in support of applications to obtain necessary permits/certifications/approvals as well as to direct the efforts during the construction activities. As the application process proceeded, minor modifications were made to the plans in response to concerns or issues raised during the various application reviews. The modifications made throughout this process were communicated to all interested parties during the permitting process to ensure that all interests were considered.

The project was performed as a design-build effort. As such, extensively detailed design plans and specifications beyond that necessary to support the permitting efforts and to establish the performance criteria for the remediation project were not necessary. Additional engineering design, other than the anticipated minor field alterations necessitated by changed conditions, was generally not performed. There were minor changes, due to the increased size of the excavations from the initial estimated area. However, the restoration of the Site to the conditions and topography as existed prior to remediation remained approximately the same. Also, additional modifications to discharge DSN-003 were completed as necessary to facilitate future monitoring as required through the respective discharge permitting.

Various detailed plans were prepared to specifically define the requirements and procedures planned for specific aspects of this project. These plans were, in some cases, submitted as support packages with some of the permit and or approval applications to the various review authorities. A summary of the plans prepared follows.

5.1.2.1 Health and Safety Plan

A Health and Safety Plan (HASP) was prepared prior to the initiation of construction activities. The HASP detailed safety organization, procedures, and personal protective equipment that are based on an analysis of potential site-specific hazards. The HASP, meets the requirements of 29 CFR 1910 and 29 CFR 1926 (which includes 29 CFR 1910.120 and 29 CFR 1926.65). The HASP was completed on June 30, 2001, reviewed and signed by all applicable field personnel.

5.1.2.2 Traffic Management Plan

A Traffic Management Plan was developed, in accordance with the Town of East Hartford requirements, prior to the initiation of construction activities to identify the necessary measures that would be taken to address traffic control during the performance of the project. The

intention of the plan was to mitigate traffic congestion and other possible disturbances on the roadways through selective construction traffic routing and other effective management tools including scheduling and staging as needed. Minor deviations to this plan were implemented as necessary in response to increased security at the Pratt & Whitney East Hartford site.

5.1.2.3 Dust Control Plan

The Dust Control Plan was prepared as a supplement to the RAWP and was submitted for review to the DEP, EPA and Town of East Hartford, Connecticut. This plan presents the operational controls that were implemented during the project to minimize the generation of dust, to control the dust that is generated, to define monitoring requirements, to ensure that abutting residents and UTC/Pratt & Whitney facility workers were not exposed to airborne particulate matter beyond applicable threshold levels, and to establish notification procedures and corrective actions that were to be implemented in the event applicable particulate thresholds were exceeded.

The action level for particulate matter in air (dust) established for this project is 150 $\mu g/m^3$ based on a time-weighted-average over a single 1-hour period. The appropriate methods, as described in the above document, were implemented either alone or in conjunction with one another on an as needed basis to ensure the 150 $\mu g/m^3$ standard for the project was not exceeded.

5.1.2.4 Odor Control Plan

An Odor Control Plan was developed, in accordance with the Town of East Hartford requirements, prior to the initiation of construction activities to identify the necessary measures that would be taken to address the minimization of odor during the performance of the project. The intention of the plan was to mitigate odor disturbances in the vicinity of the remediation activities through selective tools including containment of off-gasses and/or application of organic deodorants as needed.

Water Handling Plan

The Water Handling Plan was developed, in accordance with the Town of East Hartford P&Z Commission request, to outline operational controls, monitoring requirements, and notification procedures to be implemented in relation to the management of dewatering wastewater and stormwater flows generated during the performance of the remediation project at the Pratt & Whitney facility. As the project involved the excavation of wet soil and sediment from the pond, brook and wetland areas it was necessary to dewater the water bodies and wetland area within the project limits to provide access to the contaminated soil and sediment for excavation.

Mitigation Plan

The Mitigation Plan, prepared in July 2001 and revised in February 2002, represents the results of investigations conducted at the Site by Environmental Planning Services (EPS) and LEA. The purpose of the investigations was to assess the current status of existing wetland functions and values, fish and wildlife habitats and populations, state and federal endangered and threatened species, and water quality and uses in support of an evaluation of the effects of the project on each. Specifically, the report was prepared in support of the ACOE permit application and the ACOE's request made as part of the Provisional Permit for the project.

The report provides a candid discussion of the effects of the proposed activities on wetlands (functions and values), fish and wildlife resources (habitats and populations), state and federal endangered and threatened species and state species of special concern, stream flows, state water quality standards and designated uses of waters of the state, public water supplies, wastewater treatment needs, the capacity of waters to assimilate wastes, ground water recharge/discharge, ground water availability, private and public water supply wells, agriculture, and water-based recreation.

5.1.3 Waste Disposal Characterization

Contaminated soil and sediment was characterized for disposal based on the "as-found" concentration of PCBs. Additional analysis was performed on stockpile grab samples as needed to satisfy the disposal vendor. The waste was disposed of based upon the more restrictive analytical data regardless of the as-found concentrations (e.g. if in-situ characterization documents < 50 mg/kg PCBs and the stockpile data suggests > 50 mg/kg, the waste disposal profile used for this particular load would be based on the stockpile data). Stockpile analytical data was not used to reduce any disposal restrictions on the material.

Additional sampling, as necessary to supplement the site characterization data already available, was performed prior to initiation of the excavation activities and throughout the project on an as-needed basis. The summary of sampling and analytical information for waste disposal characterization samples and summary of constituents detected in waste disposal characterization samples, for the Site, are presented in tabular format in Appendix F.

5.2 Site Preparation Activities

5.2.1 Temporary Fence

The construction activities at the Site began on July 2, 2001 with the installation of the temporary fencing along the southern and eastern limits of the project Site. In addition, miscellaneous debris (fencing, shrubs, pallets) was removed from the immediate vicinity of the parking lots to allow for the installation of the by-pass channel. Temporary fencing was installed in additional areas of the Site as needed throughout the project and was dismantled and removed from the Site upon completion of the project.

5.2.2 Permanent Fencing

The construction of the permanent fence along the northern perimeter of the project was initiated in July 2001. The installation of the final lengths of the permanent fence along the southern perimeter was installed upon project completion.

5.2.3 Lowering of Pond Level

Lowering of the water level within Willow Brook Pond was initiated by the opening of the gate on the dam and the removal of flashboards on the northern portion of the dam. Prior to lowering the water level in the pond, a series of oil absorbent booms were installed within Willow Brook Pond upstream of the dam, and at three locations within Willow Brook downstream of the dam to retain any objectionable floating materials. These booms were maintained throughout the remedial excavation.

5.2.4 Clearing and Grubbing

Clearing and grubbing activities were initiated on the south embankment of Willow Brook nearest the Main Street culvert on July 23, 2001. The clearing and grubbing of the southern bank of Willow Brook, the entirety of the Upper Willow Brook Pond, and the removal of large trees immediately downstream of the dam on Willow Brook Pond was completed on August 1, 2001. Additional clearing and grubbing activities were performed in the Oil/Water Separator Area and the northern and southern banks of the Stream Channel downstream of the wetlands were also performed.

5.2.5 Decontamination Facilities

Contractor equipment in contact with contaminated soil and sediment required decontamination prior to performing work in an uncontaminated area or demobilization from the Site. Two decontamination pads were strategically located at the Site adjacent to excavations and vehicle loading areas. The installation of decontamination pads was initiated on July 26, 2001. The decontamination pad or pads were constructed of a wood frame, lined with heavy plastic, and included a layer of open stone. Equipment that came into contact with contaminated soil and sediment was adequately cleaned with a pressure washer, scrub brushes and organic solvent, using a double wash/rinse process, in accordance with Subpart S of 40 CFR 761, over the decontamination pad.

Wash water and detergents used in the decontamination process were disposed of following pretreatment through a mobile water treatment system to the Connecticut River following treatment through Colt Street in accordance with the terms and conditions of the EA granted by the DEP. The terms and conditions of the EA require the removal of PCBs to a concentration of 0.5 µg/L prior to discharge to Colt Street.

The equipment used to perform the remedial excavation and related activities was decontaminated in accordance with the RAWP as revised through January 2002. However, a modification to the RAWP with specific procedures for decontamination of the sheet piles, used to construct the by-pass channel in the vicinity of the lower pond, was submitted to the EPA for review and approval on July 3, 2002. The reason for this request was to eliminate the use of an organic solvent (kerosene) as a required solvent wash step in the decontamination process due to concerns with logistics, worker health and safety and potential releases to the environment due to the tremendous size of the sheets. The EPA approved the request for modification on August 22, 2002 and the written response is included in Appendix H.

5.2.6 Contaminated Soil Staging Bins

Due to logistical constraints, direct loading of the waste haul vehicles was not practical in most locations. As such, and as planned, contaminated soil staging bins were erected in specific locations on the Site as necessary to facilitate haul vehicle staging and loading operations. The construction of the staging bins for contaminated soil and sediment was initiated on July 24, 2001.

In accordance with the RAWP, excavated material was deposited in the staging bins and evaluated after a 24-hour period to assess the percent solids. If the percent solids were

unacceptable for over-the-road transport, lime was added to the material to further stabilize it and to achieve compliance with shipping requirements.

The staging areas were constructed upon paved surfaces to provide a smooth and regular working surface. The facilities consisted of a perimeter berm and were lined with heavy-duty polyethylene to contain all soils and liquids. Soil/sediment/concrete and miscellaneous non-porous material placed within the staging areas were covered with a low permeability sheet to limit exposure to precipitation.

Upon completion of the remediation and construction activities, the staging bins were dismantled and removed as the project progressed. The subjected areas of pavement containing the staging bins were wet swept to ensure that no debris was left in place and the polyethylene lining was removed and disposed of off-site.

5.3 Construction of By-Pass Channel

The installation of the by-pass channel to divert flow from the eastern inlet to Upper Willow Brook Pond to the Main Street culvert was initiated on July 6, 2001 with the milling of the pavement in the parking lot located east of the lower section of Willow Brook Pond. The excavation of the western section of the by-pass channel was initiated on July 10, 2001.

Steel sheeting was installed along the southern portion of the Lower Willow Brook Pond to facilitate construction of the by-pass channel in this area due to the proximity of Hobbs Road. The steel sheeting installation was completed on August 6, 2001 and the by-pass channel liner was immediately installed therein.

The ultimate configuration of the by-pass channel outlet to Willow Brook at the Main Street culvert was modified in the field as a result of interferences with a utility pole. The modification resulted in the relocation of the outlet approximately 50 feet east of the original location. In addition, the energy dissipater was not extended into the stream channel as originally planned. The rationale was to provide for the ability to perform the stream channel excavation and restoration at a later date. The field change resulted in a dissipater that functions as intended and protects Willow Brook from erosive forces exerted by water traveling through the by-pass channel. The construction of the energy dissipater at the intersection of Willow Brook was completed on August 27, 2001.

The lining of the by-pass channel and the installation of erosion control fabric on the upper sides of the by-pass channel were completed on September 17, 2001. The initiation of flow in the by-pass channel was performed on September 20, 2001. Drawing No. 5-1 presents the as-built

conditions of the by-pass channel. Based on observations and inspections made regularly throughout the construction period, the by-pass channel functioned as designed.

5.4 Demolition of Onsite Structures

5.4.1 Process Water Facility

The demolition of the Process Water Facility was initiated on July 17, 2001. The demolition activities were phased as necessary for segregation of the waste materials generated. Surficial materials and other components of the structure that were not in contact with PCB contaminated liquids, sediment or soil, were demolished or removed as appropriate in the first phase of the demolition activities.

The concrete that was not in contact with any PCB-contaminated liquid/soil was recycled at the Tilcon Connecticut, Inc. facility located in New Britain, Connecticut. Equipment generated during the demolition of the Process Water Facility that was not in contact with PCB-contaminated liquid/soil was removed from the Site and sent to various facilities for reuse or recycling. Some mechanical components were retained by UTC/Pratt & Whitney personnel for use at the facility. Scrap metal generated during the demolition of the structure was sent to Schiavone Recycling in North Haven, Connecticut.

Upon demolition and removal of the above-uncontaminated material, in situ assessments were made for the remaining porous and non-porous material that were apparently in contact with PCB-contaminated media. The removable concrete from the process water facility that was in contact with PCB liquid/soil was disposed of in accordance with the analytical data from the surrounding soil and concrete chip samples as less than 50 mg/kg for PCBs and was transported by Dart Trucking, Inc. to the Niagara Falls Landfill Facility in Niagara Falls, NY for disposal.

Contaminated removable equipment generated during the demolition of the Process Water Facility, was characterized as containing greater than 50 mg/kg for PCBs, and was shipped off-site along with the soil loads by CSX Transportation of Jacksonville, FL and transported to the Wayne Disposal Inc., Landfill facility located in Belleville, MI for disposal.

Some porous (concrete) and non-porous (primarily sheeting and pilings) materials could not be reasonably removed due to a myriad of limitations. In such cases, these materials were abandoned in place after assessment. Porous structures designated for in-place abandonment were analytically assessed to achieve concentrations lower than 25 mg/kg PCBs for abandonment in areas designated for engineered controls and 1 mg/kg PCBs in other areas. Non-porous utilities and associated structures (sheeting, shoring, etc.) designated for in-place

abandonment were analytically assessed and decontaminated if necessary to achieve a 100 µg/100 cm^2 for abandonment in place in areas designated for engineered controls and 10 µg/100 cm^2 in other areas.

5.4.2 Substation 54

The demolition of the Substation 54 was initiated on July 17, 2001. It was necessary to assess the presence or absence of asbestos within the substation prior to obtaining a demolition permit. It was determined that asbestos was present and the asbestos was abated on July 25, 2001. Following abatement, the Town of East Hartford issued the demolition permit.

Following demolition, eight 30-cubic yard roll-off containers of scrap metal generated during the demolition of this structure and the process water facility were sent to Schiavone Recycling in North Haven, Connecticut. In addition, two, 30-cubic yard roll-offs of burnable debris (wood) generated during the demolition of these structures were sent to P&S of Uncasville, Connecticut.

Disposal and abandonment in place procedures previously described for the process water facility were similarly implemented for the Substation 54.

5.4.3 Oil/Water Separator

As detailed in the RAWP, the data from the three-phases of characterization investigation were not adequate for the purposes of establishing the lateral limits of the composite cap to be installed in the area of the oil/water separator. As a result, prior to implementing the remediation in this area, additional soil borings were advanced. The intent of the sampling was to delineate the three-dimensional extent of other soils requiring remediation for other constituents pursuant to the RSRs. The location of these soil borings is presented on Drawing No. 2-1. The summary of sampling and analytical information and summary of constituents detected in these soil borings are presented in tabular format in Tables 1 and 2 respectively, in Appendix I.

The excavation and removal of the Oil/Water Separator was initiated on August 13, 2001. The upper 4-feet of soil was excavated from the Oil/Water Separator Area and placed on polyethylene sheeting and sampled for the purposes of disposal characterization. The upper 4-feet of soil was previously characterized to contain less than 50 mg/kg total PCBs. Soil/sediment excavation in this area is further detailed later in this section. The removal of the Oil/Water Separator was completed on November 3, 2001.

The Oil/Water Separator structure was demolished by means of a hydraulic demolition hammer. The majority of the concrete material was crushed, mixed in with the soil loads and shipped off-

site by CSX Transportation of Jacksonville, FL and transported to the Wayne Disposal Inc., Landfill facility located in Belleville, MI for disposal. Some of the larger pieces of concrete (greater than 3' x 3' x 3') and steel that could not practically be assessed in situ were characterized by sampling (in accordance with the RAWP) and confirmed as containing less than 50 mg/kg for PCBs then transported by Dart Trucking, Inc. to the Niagara Falls Landfill Facility in Niagara Falls, NY for disposal.

5.5 Wastewater Generation and Treatment

Wastewater was generated on this project through several processes including well-point dewatering, surface water dewatering and decontamination of various materials and equipment. In general, well-point and surface water dewatering waste streams generated within the active remediation areas were typically combined and discharged into the on-site treatment system. Decontamination wastewater was typically generated at the decontamination pad facilities and was occasionally pumped to the on-site treatment system as needed.

As described earlier in this report, a detailed Water Handing Plan was prepared to present the means, methods and equipment proposed for use in the handling and treatment activities associated with this project. Based on the available groundwater data, and consultation with representatives of the DEP Bureau of Water Management, a modification to an existing General Permit Registration (GGR001013) was made to facilitate the discharge of up to 50,000 gallons of groundwater derived wastewater per day to the sanitary sewer. Prior to initiation of this discharge, it was determined that the limitations associated with this registration, including the source limitations and the maximum daily discharge, would seriously impair the progress of the project.

As such, an Emergency Discharge Authorization (EA) was requested on August 17, 2001, which specifically allows the discharge of Willow Pond dewatering, excavation dewatering, equipment decontamination, and gravity sediment dewatering wastewater contaminated with PCBs, volatile organic compounds and metals generated as a result of a DEP ordered Removal Action into Willow Brook. The maximum daily flow requested was 1,080,000 gallons, which was determined to be adequate to facilitate the progress of the project. The EA was issued September 6, 2001 (Authorization No. EA0100182) and later modified to also allow discharge into the Connecticut River (Authorization No. EA0100182R) via Colt Street (NPDES Permit No. CT0001376). This EA was renewed December 27, 2001 and the duration was extended through July 30, 2002. Copies of the original EA, the modified EA and the extension authorization are included in Appendix H.

Two separate wastewater treatment systems were erected to facilitate the dewatering activities associated with this project. The general unit processes for both systems consisted of initial settling in an 18,000 gallon weir tank, then filtration through 25 or 50-micron filter media followed by air stripping through low-profile air-stripping unit(s). The first treatment system erected for use in the Upper and Lower Willow Brook Ponds and the Oil/Water Separator Area was equipped with three low profile air-stripping units in parallel and had a hydraulic capacity of 500 gallons per minute. The second treatment system was erected for use in the Wetland and streambed areas. This system was equipped with one low profile air-stripping unit with a hydraulic capacity of 400 gallons per minute.

Wastewater discharge monitoring was completed throughout the project, in accordance with the EA, for discharges into the Connecticut River and/or directly to Willow Brook. Samples were obtained and analyzed for PCBs, VOCs, total suspended solids (TSS), total dissolved solids (TDS), and total copper, lead and/or zinc, and pH as necessary for compliance reporting. In addition, performance and pretreatment samples were analyzed as needed to ensure the treatability of the wastewater generated. The summary of sampling and analytical information for compliance sampling and summary of constituents detected in compliance samples for the authorized wastewater discharge(s) are presented in tabular format in Tables 1 and 2 respectively, included in Appendix G. The summary of sampling and analytical information for performance samples and summary of constituents detected in performance samples in are presented in tabular format in Tables 3 and 4 respectively, included in Appendix G.

Dewatering activities included the installation of dewatering well points and surface water sumps within the Upper Willow Brook Pond and Oil/Water Separator Area, the Lower Willow Brook Pond, and the stream channel/wetland area. Details associated with these activities are presented below.

5.5.1 Upper Willow Brook Pond & Oil/Water Separator - Areas 01 through 04

Prior to initiation of the excavations activities within the Upper Willow Brook Pond, a well point dewatering system was installed. Based on initial laboratory screening from the associated well point system, zinc was detected at concentrations greater than the permitted limits for discharge directly to Willow Brook. As such, provisions were made to pump this dewatering wastewater to Colt Street. Discharge from this system was initiated October 12, 2001. Excavation within this area was initiated six days after dewatering began.

The Oil/Water Separator Area was initially excavated to the groundwater table (approximately elevation 20.0 feet). During this excavation period, groundwater-dewatering means/methods were evaluated and coordinated. To facilitate the deeper remedial excavation activities within

the Oil/Water Separator Area, a dewatering system was installed within the excavation. This system was designed to be operated collectively with the Upper Willow Brook Pond dewatering system. Zinc was similarly detected at elevated concentrations in the wastewater generated from this area. Consequently, this discharge was also directed through the same treatment system used for the Upper Willow Brook Pond with discharge of the treated wastewater to Colt Street.

An exceedance of the applicable pollutant limits for total PCB's and total VOCs, of 0.5 µg/l and 50 µg/l respectively, as defined in the EA and also in 40 CFR 761.79(b)(1)(ii) was encountered during the compliance monitoring performed on November 2, 2001 for these areas. The discharge at Colt Street remained in compliance during this period. Additionally, all appropriate notifications associated with the requirements of the EA for the dewatering wastewater discharge were made. Exceedances were encountered for total VOCs at 65.8 µg/l and total PCBs at 0.88 µg/l. Dewatering in the area represented by this particular sampling event (Upper Willow Brook Pond) was terminated immediately, as the excavation below the water table was complete. Backfilling and cap construction and restoration activities associated with the Upper Willow Brook Pond area were completed without groundwater dewatering. However, dewatering within the Oil/Water Separator Area continued as necessary to facilitate excavation and backfill of this area below the water table.

5.5.2 Lower Willow Brook Pond - Areas 05 through 11

On October 22, 2001, the installation of well points associated with the dewatering system for this area was initiated. Installation of the header, connective piping and hoses and the dewatering pretreatment system were completed on November 19, 2001. Due to the presence of zinc and VOCs in the raw water screening analysis at concentrations exceeding authorization limits for discharge to Willow Brook, dewatering wastewaters generated from this area of the project Site were pretreated for removal of VOCs and the pretreated effluent was directed to Colt Street.

Since excavation within the Oil/Water Separator Area was essentially extended into the Lower Willow Brook Pond, some of the connective dewatering piping and header systems from the Oil/Water Separator Area as well as the treatment system were extended and/or shared by the Lower Willow Brook Pond system.

An exceedance of the applicable pollutant limits for total PCBs, of 0.5 µg/l, as defined in the EA and also in 40 CFR 761.79(b)(1)(ii) was encountered during the compliance monitoring performed on April 25, 2002. The discharge during this exceedance was directed through Colt Street, which discharge remained in compliance during this period, despite the exceedance

encountered at the discharge of the treatment system. All appropriate notifications associated with the requirements of the EA for the dewatering wastewater discharge were made. The exceedance was encountered for total PCBs at 11.6 µg/l.

Mitigative measures were immediately implemented on the treatment system consisting of the installation of a multi-media filtration unit that was placed after the existing settling/filtration/air stripping processes prior to the discharge to Colt Street. Sampling, in accordance with the above referenced EA was immediately performed upon restart of the treatment system.

On June 4, 2002, the dewatering treatment system associated with the Lower Pond was removed from operation as the majority of the remediation in this portion of the project Site was completed. However, portions of the treatment system were later used for decontamination wastewater treatment.

5.5.3 Stream Channel and Wetlands - Areas 12 through 15

Dewatering well points and the related collection header were installed throughout this area in November 2001. Due to the presence of VOCs in the raw water screening analysis at concentrations exceeding authorization limits for discharge to Willow Brook, dewatering wastewaters generated from this area of the project Site were being pretreated for removal of VOCs prior to discharge to the Willow Brook. A separate VOC removal system was installed in accordance with the specifications submitted to the DEP as previously described. This system was operated separately from the Lower Willow Brook Pond treatment system, as the two systems were remote in relation to one another and the discharge from the stream channel and wetlands system was being directed to Willow Brook rather than Colt Street.

An exceedance of the applicable pollutant limits for total PCBs, of 0.5 µg/l, as defined in the EA and also in 40 CFR 761.79(b)(1)(ii) was encountered during the compliance monitoring performed on December 20, 2001. The discharge during this exceedance was directed through Colt Street. Although an exceedance was encountered for the discharge of the treatment system, the final discharge at Colt Street remained in compliance during this period. Additionally, all appropriate notifications associated with the requirements of the EA for the dewatering wastewater discharge were made. The exceedance was encountered for total PCBs at 1.3 µg/l.

Mitigative measures were immediately implemented on the treatment system, including increased detention time in the sedimentation tank for the treatment system, after a short shutdown of the system. Sampling, in accordance with the above referenced EA was immediately performed upon restart of the treatment system.

The majority of the remediation and restoration activities in the Stream Channel and Wetlands areas were complete by early April 2002. As such, the dewatering facilities associated with the Stream Channel and Wetlands areas were dismantled and shutdown on April 3, 2002.

5.6 Soil and Sediment Excavation

Based on the initial characterization data, an estimated 12,500 cubic yards of soil and sediment was designated for off-site disposal as detailed in the RAWP. Upon initiation of the construction activities, soil borings and test pits were installed throughout various areas of the Site to better define the limits of excavation. Additional characterization sampling and field screening were used to evaluate these areas and to generate additional data for waste disposal assessment. The details associated with the remedial excavation performed throughout this Site, broken down by area are presented in the following sections.

A summary presenting the estimated volume and tonnage of soil and sediment excavated and shipped off-site from each remedial area is presented in Table 5-1. The tonnage presented is actual, as measured at the transfer facility, while the volume is estimated based upon a computed conversion factor for this project.

5.6.1 Upper Willow Brook Pond - Areas 01 through 03

The initial planned volume of excavation for the Upper Willow Brook Pond was 260 cubic yards. On September 4, 2001, and September 5, 2001 soil borings were advanced to depth of up to 10 feet in the Upper Willow Brook Pond and samples were submitted for analysis for the presence of PCBs. The soil borings confirmed the presence of a zone of previously unidentified contamination at depths ranging from 4 to 6 feet below the existing pond bottom and resulted in the conclusion that the entirety of the Upper Willow Brook Pond needed to be excavated and removed. The location of these soil borings is presented on Drawing No. 2-1. The summary of sampling and analytical information and summary of constituents detected in these soil borings are presented in tabular format in Tables 1 and 2 respectively, in Appendix I.

Based on observations of several test pits, field immunoassay testing and performance of confirmatory soil sampling obtained during the verification sampling performed within the Upper Willow Brook Pond, it was also determined that the lateral limits of soils exhibiting total PCB concentrations in excess of 25 mg/kg extended beyond the project boundaries as defined in the Consent Order. Excavation of contaminated soils along the northern boundary of the Upper Willow Brook Pond was completed, well beyond the project limits defined in the Consent Order. In addition, an assessment of the southerly lateral limit of contamination was also performed. However, excavation to the southern direction was limited by the presence of the by-pass

channel and concerns regarding the stability of the slope separating the excavation and the by-pass channel.

The excavation of the pond bottom was completed on October 26, 2001. Completion of excavation in the south embankment was completed to a point at which slope stability became a concern on November 8, 2001. Excavation of the north embankment was completed on December 3, 2001. Drawing No. 5-2 presents the as-built limits of the remedial excavation within this area. Appendix J presents photographic documentation of the remediation performed within this area.

All excavation performed beyond the lateral limits of the pond bottom caps was performed to achieve compliance with the RSRs. All soils within 4 feet of the ground surface were remediated to comply with the RDEC and all soils greater than 4 feet to a depth of 15 feet were remediated to comply with the IDEC.

Backfilling and cap construction and restoration activities associated with the Upper Willow Brook Pond area were initiated on November 15, 2001. The final excavations at the east end of the Upper Willow Brook Pond were completed during the reinstallation of the 108-inch reinforced concrete culvert in early April 2002. Following receipt of confirmatory data indicating that the remediation goal of less than 25 mg/kg PCBs was achieved, on April 12, 2002, backfilling of the eastern end of the Upper Willow Brook Pond was initiated.

During the remediation activities of the Upper Willow Brook Pond, 7,197 cubic yards (8,641 tons) of contaminated soil and sediment was excavated and removed from the Site. Approximately 2,660 cubic yards of this soil contained less than 50 mg/kg total PCBs, while the remainder (4,533 cubic yards) contained greater than 50 mg/kg total PCBs.

5.6.2 Oil/Water Separator– Area 04

The oil/water separator was previously located in the land bridge between the Upper and Lower Willow Brook Ponds. Prior to implementing remediation in this area, soil borings were advanced on July 24 and July 25, 2001, to delineate the lateral extent of the composite cap. Eight soil borings to a depth of 20 feet below the ground surface and collected 24 soil samples, which were analyzed for the presence of PCBs. The soil borings were installed around the perimeter of the oil/water separator structure as shown on Drawing No. 2-1. The summary of sampling and analytical information and summary of constituents detected in these soil borings are presented in tabular format in Tables 1 and 2 respectively, in Appendix I. Based on this data, the excavation limits in the Oil/Water Separator Area were expanded considerably.

Contaminated soil and sediment excavation was initiated on August 13, 2001 in the vicinity of the former oil/water separator. Confirmatory sampling and field (immunoassay) screening techniques were conducted throughout the excavation activities. The results of field screening indicated that contaminated soil in the vicinity of the former oil/water separator extended laterally and vertically beyond the limits delineated initially and by the above referenced soil borings.

Based on field observations, screening data, and fixed laboratory confirmatory sampling results, it was also apparent that contamination in the vicinity of the oil/water separator also extended laterally into the eastern limits of the Lower Willow Brook Pond (Remediation Area 05). As a matter of logistical convenience, the excavation of the contaminated soil and sediment was extended to result in the partial removal of the contaminated soil and sediment in Remediation Area 05. Drawing No. 5-3 presents the as-built limits of the remedial excavation within this area. Appendix K presents photographic documentation of the remediation performed within this area.

Following receipt of confirmatory data indicating that the remediation goal of less than 25 mg/kg PCBs was achieved, on November 7, 2001, backfilling of the Oil/Water Separator location (Remediation Area 04) was initiated. The backfilling activities continued until the grade in the subject area was approximately 4-feet below the planned final grade, to facilitate final grading operations and the installation of the engineered control.

A total of 14,453 cubic yards (17,351 tons) of contaminated soil and concrete has been excavated and removed from the Site. Approximately 3,043 cubic yards of this soil contained less than 50 mg/kg total PCBs, while the remainder (11,410 cubic yards) contained greater than 50 mg/kg total PCBs.

It should be noted, that a portion of the by-pass channel installed to divert flow around Willow Brook and Willow Brook Pond was located along the southern limits of Area 04. Sampling to characterize the north and south banks of the by-pass channel was initiated on April 17, 2002 and was completed shortly thereafter.

5.6.3 Lower Willow Brook Pond & Process Water Facility – Areas 05 through 11

Excavation of soils from the Lower Willow Brook Pond was initiated on December 13, 2001, in Area 06. Confirmatory sampling and field (immunoassay) screening techniques were conducted throughout the excavation activities of the Lower Willow Brook Pond. The results of field screening indicated that contaminated soil in the Lower Willow Brook Pond extended laterally beyond the limits initially delineated. Confirmatory sampling coupled with this field screening

data expanded the excavation of sediment to essentially include the entire pond bottom within this area, as well and the earthen berm, which segregated the "oil-basin" from the remainder of the pond.

Since the by-pass channel was partially constructed within the southern portion of the Lower Willow Brook Pond, excavation of the northern portion of the pond was performed initially. Sheet piles were installed to segregate the by-pass channel from the Lower Willow Brook Pond. As such, excavation proceeded to the sheet piles. Following receipt of confirmatory data indicating that the remediation goal of less than 25 mg/kg PCBs was achieved within the northern portion of the pond, on February 8, 2002, backfilling and construction of the engineered control in the Lower Willow Brook Pond was initiated.

A low-flow channel was constructed as part of the engineered control through the central portion of the Lower Willow Brook Pond. As the project progressed and the wetlands and stream channel were remediated and restored, the use of the temporary by-pass channel was terminated. Willow Brook was diverted through the low flow channel within the pond while the southern portion of the pond (south of the sheet piles) was remediated. Excavation of soils along the southern side of the temporary sheeting in Area 09 was initiated on April 26, 2002. In addition, soil remediation of the former "oil basin" located in Area 07 was completed. The earthen berm, which differentiated the oil basin from the Lower Willow Brook Pond was remediated as well due to the presence of PCBs in excess of 50 mg/kg. Drawing Nos. 5-3 and 5-4 present the as-built limits of the remedial excavation within this area. Appendix L presents photographic documentation of the remediation performed within this area.

Following receipt of confirmatory data indicating that the remediation goal of less than 25 mg/kg PCBs was achieved, on May 24, 2002, backfilling within the former oil basin and capping of the southern portion of the Lower Willow Brook Pond was initiated.

During the remediation of the Lower Willow Brook Pond, 13,065 cubic yards (15,731 tons) of contaminated soil was excavated and removed from the Site. Approximately 5,344 cubic yards of this soil contained less than 50 mg/kg total PCBs, while the remainder (7,721 cubic yards) contained greater than 50 mg/kg total PCBs.

5.6.4 Willow Brook Stream Channel and Wetland – Areas 12 through 15

Excavation of soils from the stream channel and wetlands was initiated on January 15, 2002, in Area 12. Temporary earthen access bridges were constructed as needed to gain access to the northern portion of the wetlands area after installation of the dewatering facilities. Simultaneous excavation within the steam channel was performed.

Confirmatory sampling and field (immunoassay) screening techniques were conducted throughout the excavation activities of the wetlands and the portion of the stream channel located south of the wetlands. The results of field screening resulted in the determination that contaminated soil in the wetlands extended laterally and vertically beyond the limits initially delineated. Confirmatory sampling and analysis through a fixed analytical laboratory was also conducted within the wetlands and the portion of the stream channel located south of the Wetlands. Drawing Nos. 5-5, 5-6 and 5-7 present the as-built limits of the remedial excavation within this area. Appendix M presents photographic documentation of the remediation performed within this area.

Following receipt of confirmatory data indicating that the remediation goal of less than 25 mg/kg in the wetlands portion of the stream channel and less than 1 mg/kg PCBs within the wetland marsh area was achieved, on March 4, 2002, backfilling and construction of the engineered control in the stream channel and restoration of the wetlands was initiated. The restoration of the stream channel and wetlands was completed on April 11, 2002.

During the remediation activities performed in the stream channel and wetlands, 20,811 cubic yards (24,983 tons) of contaminated soil was excavated from the stream channel and wetlands and removed from the Site. Approximately 10,497 cubic yards of this soil contained less than 50 mg/kg total PCBs, while the remainder (10,314 cubic yards) contained greater than 50 mg/kg total PCBs.

5.7 Off-site Waste Disposal

The Environmental Quality Company (EQ) of Belleville, Michigan was retained by UTC to arrange for the transportation and disposal of the excavated material that was removed from the Site. During the remediation activities, 55,526 cubic yards (66,706 tons) of contaminated soil was excavated and removed from the Site. In addition, approximately 240 cubic yards of concrete, steel, and other construction related debris was removed from the Site for disposal as less than 50 mg/kg for PCBs and the remainder was of the concrete and other debris generated from the demolition activities was recycled off-site. Disposal documentation for all PCB waste prepared by the disposal facilities is included in Appendix N.

A table summarizing the waste disposal manifests for each load of material shipped from the Site is included in Appendix O. Additional details related to each waste stream are presented below.

5.7.1 Soil and Sediment Containing Greater Than 50 mg/kg PCBs

During the remediation activities, approximately 33,980 cubic yards (40,793 tons) of the soil/sediment contained greater than 50 mg/kg total PCBs. The arrangements for the disposal of the material were conducted by EQ. CSX Transportation of Jacksonville, FL removed this material from the Site and transported it to the Wayne Disposal Inc., Landfill facility located in Belleville, Michigan for disposal.

5.7.2 Soil and Sediment Containing Less Than 50 mg/kg PCBs

During the remediation activities, approximately 21,546 cubic yards (25,912 tons) of the soil/sediment contained less than 50 mg/kg total PCBs. The arrangements for the disposal of this material were conducted by EQ. EQ retained the services of the BFI Waste Systems of North America (a subsidiary of the Allied Waste Company) to effect the disposal of the material. This material was removed from the Site by CSX Transportation of Jacksonville, FL and transported to the Niagara Falls Landfill Facility in Niagara Falls, NY for disposal.

5.7.3 Concrete, Steel, and Misc. Debris Containing Less Than 50 mg/kg PCBs

During the remediation activities, approximately 240 cubic yards of concrete, steel, and miscellaneous debris containing less than 50 mg/kg PCBs was removed from the Site. Arrangements for the disposal of this material were effected by EQ. EQ retained the services of the BFI Waste Systems of North America (a subsidiary of the Allied Waste Company) to coordinate the disposal of the material. This material was removed from the Site by Dart Trucking, Inc. and transported to the Niagara Falls Landfill Facility in Niagara Falls, NY for disposal.

5.7.4 Recyclable Concrete and Steel

Recyclable materials were generated during the demolition activities, as detailed earlier in this report. Thirty-cubic yard roll-off containers of uncontaminated scrap metal generated during the demolition activities were sent to Schiavone Recycling in North Haven, Connecticut. Recyclable concrete that was not in contact with any PCB contaminated liquid/soil was recycled at the Tilcon Facility located in New Britain, CT.

5.8 Air Monitoring

The air monitoring at the Site was performed in accordance to the *Dust Control Plan* prepared for the remediation activities. This plan presents the operational controls that were implemented

during the project to minimize the generation of dust, to control the dust that -was generated, to define monitoring requirements, to ensure that abutting residents and Pratt & Whitney facility workers were not exposed to airborne particulate matter beyond applicable threshold levels, and to establish notification procedures and corrective actions that were to be implemented in the event applicable particulate thresholds are exceeded.

The action level for particulate matter in air (dust) established for this project was 150 $\mu g/m^3$ in air, based on a time-weighted-average over a single 1-hour period. The appropriate methods, as described in the above document, were implemented either alone or in conjunction with one another on an as needed basis to ensure the 150 $\mu g/m^3$ standard for the project was not exceeded. Appendix P includes copies of the Site air monitoring records generated throughout the project.

5.9 Soil Erosion and Sediment Control Monitoring

Appropriate soil erosion and sedimentation control methods (e.g., silt fence, straw bale dikes, absorbent booms, etc.) were installed, in accordance with the aforementioned Soil Erosion and Sedimentation Control Certificate and the General Permit registration issued by the Town of East Hartford and the DEP respectively, throughout the project to mitigate the transport of suspended solids or sediments downstream.

Monitoring and maintenance activities, as required in the SWPCP were implemented throughout the project to ensure compliance with the above objective. Inspections were completed on a weekly basis until final stabilization was achieved. These inspections focused on disturbed areas that were not stabilized, structural control measurers, vehicle exit and entrance areas, material storage areas and discharge outlets. In addition to the weekly inspections, additional inspections of all those areas identified for weekly inspection were performed within 24 hours of the end of a storm in which 0.5 inches or more rain has fallen. Post-construction inspections based on the above criteria shall continue for a three-month period after final stabilization has been achieved.

In the event that deficiencies were noted during the above inspections, immediate maintenance and/or modifications were implemented. Based on the relatively dry weather conditions encountered throughout the construction period and the successful implementation of control structures and systems, soil erosion and sedimentation was kept to a minimum throughout the project.

6. COMPLIANCE WITH REMEDIAL ACTION OBJECTIVES

The RA objective for this project was to ensure that residual Site conditions within the project limits fully complied with the requirements presented in the RAWP and the Request for Variance, Engineered Control of Polluted Soils. The RA objective within the project limits as defined in the Consent Order was achieved as documented in this section with the confirmatory analytical data and surveyed limits of the remedial excavations.

Based on the confirmatory analytical data generated during the remedial activities, residual soils in specific areas of the Site located outside of the project limits may warrant further evaluation. These areas are specifically discussed in this section and the relevant analytical data and mapping are presented.

6.1 Upper Willow Brook Pond - Areas 01 through 03

As defined in Section 5 of this report, the lateral limits of the remedial excavation within this area were significantly expanded based on observations of several test pits, field immunoassay testing and performance of the confirmatory soil sampling. The final excavation limits extended well beyond the project boundaries as defined in the Consent Order specifically in the northerly and westerly directions.

The final limits of the remedial excavation and the respective soil sample locations for the excavation floor and sidewalls are presented in Drawing Nos. 5-2 and 6-2 respectively. An overall plan depicting the layout of the profiled sections for the Site is presented on Drawing No. 6-1. A profile of the excavation in Upper Willow Brook Pond, with the sidewall sample locations shown, is presented on Drawing Nos. 6-6, 6-7, 6-8 and 6-10. The summary of sampling and analytical information for confirmatory samples and summary of constituents detected in confirmatory samples in Upper Willow Brook Pond are presented in tabular format in Tables 6-1 and 6-2 respectively.

Based on the confirmatory sampling performed, all of the floor and sidewall samples located within the project limits, as defined in the Consent Order were well below the 25 mg/kg PCB RA objective. Some sidewall samples, primarily located along the east and south banks of the Upper Willow Brook Pond area beyond the limits of the project exhibited exceedances of the RA objective for PCBs, TPH, SVOCs and in a few cases, select metals. These areas are defined and discussed in greater detail in the following sections.

Two specific grab confirmatory samples from the north bank of the upper Willow Brook Pond exhibited exceedances of the RDEC (WT-CS-02-042 for certain SVOCS, and WT-CS-02-064

for PCBs). However, none of the data exceeded two times the tabulated RDEC. Pursuant to 22a-133k-2(e)(1) of the RCSA, the 95 percent upper confidence level of the arithmetic mean of all sample results of laboratory analysis of soil from this remediation area (excluding those areas specifically identified as requiring additional investigation) was computed and compared to the RDEC. The results of this analysis, presented in Appendix Q, demonstrate compliance with the RDEC. Consequently, no additional action is necessary within these areas.

These samples also exhibited exceedances of the GBPMC for select SVOCs. However, synthetic precipitation leaching procedure (SPLP) analysis for SVOCs was run on eight samples for comparison to the groundwater protection criteria multiplied by ten, as an alternative to using the tabulated GBPMC. The leaching analysis performed confirmed that the SVOCs at the concentrations detected, do not leach at concentrations in excess of ten times the groundwater protection criteria as shown in Tables 1 and 2 included in Appendix R. As such, no additional action is necessary within these areas.

The sub aqueous cap was installed within the Upper Willow Brook Pond as detailed in the RAWP. Upon completion of the cap, the adjacent embankments were restored as detailed later in this report.

6.2 Oil/Water Separator– Area 04

Similar to the Upper Willow Brook Pond area, the lateral and vertical limits of this particular area, as originally defined, were expanded considerably. The expansion was primarily based on visual observations, field immunoassay testing and performance of the confirmatory soil sampling. This area was ultimately expanded in a westerly direction, to connect to the Lower Willow Brook Pond excavation area, and in an easterly direction, to connect to the Upper Willow Brook Pond excavation area. The excavation was similarly expanded to the north and south as necessary to remove all soil impacted with PCBs in excess of 25 mg/kg.

As previously noted, an engineered control was proposed and approved for this area. The limits of the engineered control were expanded as necessary to cover all residual and/or relocated upland soil that exhibited exceedances of the RDEC and/or GBPMC. The objective of the remedial excavation was to leave the outermost excavation sidewall soils in compliance with the RDEC so that ELURs would not be required beyond the limits of the engineered control. The upland engineered control installed within this area was extended to the east and west to intersect with the sub aqueous caps located within the Upper and Lower Willow Brook Ponds.

The final limits of the remedial excavation and the respective soil sample locations for the excavation floor and sidewalls are presented in Drawing Nos. 5-3 and 6-3 respectively. An

overall plan depicting the layout of the profiled sections for the Site is presented on Drawing No. 6-1. A profile of the excavation in the Oil/Water Separator Area, with the sidewall sample locations shown, is presented in Drawing Nos. 6-6, 6-7, and 6-8. The summary of sampling and analytical information for confirmatory samples and summary of constituents detected in confirmatory samples in the Oil/Water Separator Area are presented in tabular format in Tables 6-3 and 6-4 respectively.

Based on the confirmatory sampling performed, all of the floor and sidewall samples located below the upland engineered control were well below the 25 mg/kg PCB RA objective. Some sidewall samples, primarily located along the southeast corner of this remediation area where Areas 03 and 04 converge, exhibited exceedances of the RDEC. These areas are defined and discussed in greater detail in the following sections. Two other specific sample locations along the limits of the engineered control exhibited exceedances of the RDEC; WT-CS-04-009 located along the southwestern corner of the engineered control for PCBs and WT-CS-004-065 located along the northeastern corner of the engineered control for arsenic. These locations are similarly discussed in greater detail in the following sections.

Two specific grab confirmatory samples from the west and north sidewalls of this excavation area exhibited exceedances of the RDEC for TPH (WT-CS-04-080 and WT-CS-04-113 respectively). However, neither of the data exceeded twice the RDEC. Pursuant to 22a-133k-2(e)(1) of the RCSA, the 95 percent upper confidence level of the arithmetic mean of all sample results of laboratory analysis of soil from this remediation area (excluding those areas specifically identified as requiring additional investigation) was computed and compared to the RDEC. The results of this analysis, presented in Appendix Q, demonstrate compliance with the RDEC. Consequently, no additional action is necessary within this area.

The membrane cap was installed within this area as detailed in the RAWP. Upon completion of the cap, the adjacent landscaped areas were restored as detailed later in this report.

6.3 Lower Willow Brook Pond and Process Water Facility – Areas 05 through 11

Remedial excavation within this area was expanded to meet the project limits, as defined in the Consent Order. Excavation within the pond area was expanded from several specific areas within the pond, as determined during the investigation, to essentially encompass the entire floor area of the impoundment. The narrow upland berm that previously segregated the "oil basin" from the lower pond was also removed as part of the remedial efforts completed in this area.

The final limits of the remedial excavation and the respective soil sample locations for the excavation floor and sidewalls are presented in Drawing Nos. 5-3/5-4 and 6-3/6-4 respectively.

An overall plan depicting the layout of the profiled sections for the Site is presented on Drawing No. 6-1. A profile of the excavation in Lower Willow Brook Pond, with the sidewall sample locations shown, is presented in Drawing Nos. 6-5, 6-6, 6-7 and 6-10. The summary of sampling and analytical information for confirmatory samples and summary of constituents detected in confirmatory samples in Lower Willow Brook Pond are presented in tabular format in Tables 6-5 and 6-6 respectively.

Based on the confirmatory sampling performed, all of the floor and sidewall samples located within the project limits, as defined in the Consent Order were well below the 25 mg/kg PCB RA objective. Some sidewall samples primarily located along the south bank of the Lower Willow Brook Pond area, beyond the limits of the project, exhibited exceedances of the RA objective for PCBs, TPH, SVOCs and select metals. These areas are defined and discussed in greater detail in the following section.

Two specific grab confirmatory samples from the north sidewall of this excavation area exhibited exceedances of the RDEC for TPH (WT-CS-11-051 and WT-CS-08-025). However, neither of the data exceeded twice the RDEC and the duplicate sample from WT-CS-08-025 was below the RDEC. Pursuant to 22a-133k-2(e)(1) of the RCSA, the 95 percent upper confidence level of the arithmetic mean of all sample results of laboratory analysis of soil from this remediation area (excluding those areas specifically identified as requiring additional investigation) was computed and compared to the RDEC. The results of this analysis, presented in Appendix Q, demonstrate compliance with the RDEC. Consequently, no additional action is necessary within this area.

The sub aqueous cap was installed within the Lower Willow Brook Pond as detailed in the RAWP. Upon completion of the cap, the adjacent embankments were restored as detailed later in this report.

6.4 Willow Brook Stream Channel and Wetland – Areas 12 through 15

These areas were primarily remediated as intended based on the initial characterization investigations. Minor remedial excavation expansions were made as necessary to achieve the RA objective of the project. Floor sampling within the wetland area was slightly modified from the other areas of the Site, since this area was designated for remediation to meet the RDEC for PCBs rather than the 25 mg/kg PCB criteria adopted for the ponds and the Oil/Water Separator Area. A single grab sample was obtained from the approximate center point of each 40-foot by 40-foot sample representation area for confirmation with the RDEC criteria.

The streambeds were not sampled with the exception of the area immediately adjacent to the wetland. All of the sediment from within the beds was excavated and removed and the cap was installed within the resulting excavation limits extending from the dam downstream to the culvert located on Main Street.

The final limits of the remedial excavation and the respective soil sample locations within the wetland for the excavation floor and sidewalls are presented in Drawing Nos. 5-5, 5-6, 5-7 and 6-9 respectively. An overall plan depicting the layout of the profiled sections for the Site is presented on Drawing No. 6-1. A profile of the excavation in the Willow Brook Stream Channel and Wetland areas, with the sidewall sample locations shown, is presented in Drawing Nos. 6-10 and 6-11. The summary of sampling and analytical information for confirmatory samples and summary of constituents detected in confirmatory samples in the wetland area are presented in tabular format in Tables 6-7 and 6-8 respectively.

Based on the confirmatory sampling performed, all of the floor and sidewall samples located within the project limits of the wetland, as defined in the Consent Order were well below the 1 mg/kg PCB RA objective. Some sidewall samples located along the south bank of Willow Brook in the vicinity of the wetland, beyond the limits of the project, exhibited exceedances of the RA objective for PCBs, TPH, SVOCs and select metals. In addition, one confirmatory sample, WT-CS-12-111, located on the northwestern end of the wetlands exhibited an exceedance of the RA objective for SVOCs. This area is defined and discussed in greater detail in the following section.

Two specific grab confirmatory samples from the north bank of the wetland exhibited exceedances of the RDEC (WT-CS-12-075 for certain SVOCs and WT-CS-12-096 for TPH and certain SVOCs). However, none of the data exceeded twice the RDEC. Pursuant to 22a-133k-2(e)(1) of the RCSA, the 95 percent upper confidence level of the arithmetic mean of all sample results of laboratory analysis of soil from this remediation area (excluding those areas specifically identified as requiring additional investigation) was computed and compared to the RDEC. The results of this analysis, presented in Appendix Q, demonstrate compliance with the RDEC. Consequently, no additional action is necessary within this area.

The wetlands area was restored without a sub aqueous cap as proposed in the RAWP. The streambed was restored with a sub aqueous cap as further detailed later in this report.

6.5 Areas Requiring Further Evaluation

As noted throughout this section, specific project limits for remediation were defined in the Consent Order issued by the DEP. In some cases contaminated soil was encountered at the

limits of the project, based on the confirmatory sampling. Therefore the remedial excavation was extended beyond the limits defined in the Order, due to ease in accessibility or other circumstances. In other cases, remediation was carried to the defined limits of the project, the excavation limit was sampled and the data is presented herein. Additional investigations may be necessary in certain areas of the Site to further define the limits of contamination that extend outside the project limits.

The normal high water level within the ponds, stream and wetland generally defined the project limits; with the limits in the Oil/Water Separator defined by subsurface investigation data. The remedial excavation was, at a minimum, carried out to the project limits, which should facilitate additional investigation and/or remediation, if required, without entering the normal limits of the wetlands and watercourses.

This section summarizes the areas for which additional evaluation may be warranted. This assessment is primarily based on the analytical data derived during the confirmatory sampling and, in some instances, visual observations made in areas where no sampling was performed.

6.5.1 Upper Willow Brook Pond and the Oil/Water Separator

As previously discussed, the lateral limits of the remedial excavation within this area were significantly expanded from those anticipated in the RAWP in the northerly and westerly directions. A decision was made by UTC/Pratt & Whitney to complete excavation beyond the limits required in Consent Order SRD-130 in this area of the Site where, due to physical constraints, the performance of future remediation would not be cost-effective or prudent. Some essentially contiguous confirmatory samples along the southern and eastern excavation and a limited portion of the northern walls in the Upper Willow Brook Pond exhibit exceedances of the RA objective for PCBs, TPH, SVOCs and in a few cases, select metals. This area is referred to as AFE-01 on Drawing No. 6-12. Remedial excavation within the northeast corner of this area was extended beyond the original project limits in an effort to fully remediate the northern embankment of Upper Willow Brook Pond, however, the embankment instability foiled additional excavation within this area.

In addition, one sidewall sample (WT-CS-03-043) located along the northern wall of the excavation exhibited an exceedance of the RA objective for arsenic. This area is designated on the above referenced drawing as AFE-02. Additional excavation to achieve the RA objective within this particular area was not possible, due to the proximity of the exceedance to the property line and the instability of the excavation wall within the said area.

As previously discussed, the lateral and vertical limits of the remedial excavation within the Oil/Water Separator Area were similarly expanded from those anticipated in the RAWP. The limits of the proposed engineered control were also expanded. Based on the confirmatory sampling completed in this area, two specific locations may need additional investigation. One location is along the southwestern corner of the upland engineered control in the vicinity of the former process water facility adjacent to the Lower Willow Brook Pond. This area is discussed in detail in the following section.

The second location is along the northern wall of the excavation, for which a single sample from location WT-CS-04-065, exhibited an exceedance of the RA objective for arsenic. This area is designated on the above referenced drawing as AFE-03. Additional excavation to achieve the RA objective within this particular area was not possible, due to the proximity of the exceedance to the property line and the instability of the excavation wall within the said area.

The summary of sampling and analytical information and summary of constituents detected for locations requiring further evaluation in the Upper Willow Brook Pond and Oil/Water Separator are presented in tabular format in Tables 6-9 and 6-10 respectively.

6.5.2 Lower Willow Brook Pond and Process Water Facility

The RA objective for this area was met generally within the project limits in the north, east and westerly directions. Analytical data from the confirmatory sampling along the southern portion of Lower Willow Brook Pond exhibited exceedances of the RA objective for PCBs, TPH, SVOCs and select metals. This generally contiguous area extends from the former process water facility to about 500-feet east of the dam. This area is designated as AFE-04 on Drawing No. 6-13.

One additional sample location, from WT-CS-11-065, located adjacent to the dam exhibited an exceedance of the RA objective for TPH and PCBs. This area is designated on the above referenced drawing as AFE-05.

The summary of sampling and analytical information and summary of constituents detected for locations requiring further evaluation in the Lower Willow Brook Pond are presented in tabular format in Tables 6-11 and 6-12 respectively.

6.5.3 Willow Brook Stream Channel and Wetland

The RA objective for the wetland was met generally within the project limits along the northern wetland boundary, with one exception. One confirmatory sample, from WT-CS-12-111, located on the northwestern end of the wetlands exhibited an exceedance of the RA objective for

SVOCs. Additional excavation to achieve the RA objective within this particular area was not possible, due to the proximity of the exceedance to the property line, the presence of the wing wall of a storm drain outlet, and the instability of the excavation wall within the area. This area is designated as AFE-07 on Drawing No. 6-14.

Confirmatory sampling succeeded excavation of the streambed in the vicinity of the wetlands. Some of the confirmatory sampling along the southern excavation wall across from the wetland exhibited exceedances of the RA objective for PCBs, TPH, SVOCs and select metals. In addition, soils exhibiting exceedances of the RA objectives for PCBs, TPH, and select metals were also noted during the construction of a section of the by-pass channel south of the wetlands. These two areas have been combined due to proximity and are designated on the above referenced drawing as AFE-06.

The remainder of the streambed, east and west of the wetlands were excavated to the project limits defined in the Consent Order, then capped and restored as further detailed later in this report. No confirmatory sampling was performed within these areas. However, observations made during the excavation activities performed along a specific section of the southern wall of the streambed, west of the wetlands, suggest that additional evaluation is warranted. Stratified fill material including wood floor blocks, concrete rubble, discolored soil, and pieces of metal were observed throughout this excavation. This area is designated on the above referenced drawing as AFE-08.

The summary of sampling and analytical information and summary of constituents detected for locations requiring further evaluation in the Willow Brook Stream Channel and Wetlands are presented in tabular format in Tables 6-13 and 6-14 respectively.

7. FINAL RESTORATION

The primary focus of this section is to present documentation of construction of the engineered controls and to summarize the restoration activities of the related landscape in accordance with the plans and specifications submitted with various permit applications to the EPA, CTDEP, ACOE and the Town of East Hartford P&Z and Wetlands Commissions. Future activities including monitoring, maintenance, and assessment of the restoration activities are summarized in Section 8.

7.1 Engineered Control

Following the excavation and demolition activities, the entire Site was restored. The Site restoration involved the installation of 3 types of engineered controls over the residual soil and sediments. The final limits of the engineered control are presented on Drawing No. 7-1. The engineered control details were derived based on the anticipated stream flow velocities and considered the ultimate use of the area as a combined wetland, pond, and stream channel as follows.

7.1.1 Pond Bottom Engineered Control

The base of the sub aqueous pond bottom engineered controls consists of a non-woven geotextile, a 9-inch layer of organic rich soil and a second layer of non-woven geotextile atop. As detailed in the RAWP, a minimum of 21-inches of granular sandy gravel was placed and compacted above the organic layer overlain with a surface treatment consisting of 6-inches (minimum) 4-inch angular trap rock. Due to supply constraints, a slightly larger stone was typically used for the surface treatment and the final layer was constructed somewhat thicker, as appropriate for the material used. As the flow velocity in Willow Brook Pond is extremely low and is controlled by the dam at the outlet to the pond, the stone lining provides adequate protection against erosion.

7.1.2 Oil/Water Separator Engineered Control

The engineered control within the Oil/Water Separator Area consists of a 40-mil thickness high-density polyethylene liner overlain by a geotextile drainage grid with non-woven textile to facilitate subsurface drainage of the area. This membrane liner system is overlain by 30-inches of granular sandy gravel with 6-inches of topsoil. The surface was seeded with a select seed mixture as detailed in the *Mitigation Plan* prepared by Loureiro Engineering Associates, Inc. and revised in February 2002.

7.1.3 Stream Channel Engineered Control

The sub aqueous engineered control within the stream channel consists of a 9-inch layer of organic rich soil as detailed above, overlain by 15-inches of modified riprap, with another 12-inches of gravel with cobbles over the riprap. The riprap erosion protection was extended up the channel side slopes, to at least the 10-year flood elevation, to mitigate potential future erosion and to stabilize the relatively steep embankments.

As stipulated in the ACOE individual Section 404 permit, the services of a qualified wetland biologist were retained to assist in specifically managing the hands-on restoration activities and to provide additional direction to further enhance the outcome of the restoration project.

7.2 Upper Willow Brook Pond

The Upper Willow Brook Pond was restored with a 36-inch soil and stone engineered control as detailed in the RAWP and as presented above. The lateral limits of the engineered control were extended to the predefined horizontal location of the ordinary water level (28.0 feet). A low-flow channel was formed from the eastern inlet to the pond to the western outlet to facilitate draining and low water flow conditions. The minimum layer thickness' defined above were maintained throughout this low-flow channel as required. The adequacy of the engineered control construction was monitored and documented throughout the project. The as-built site restoration and engineered control limits are presented on Drawing 7-1. Documentation, including photographs, field measurements and field surveys is included in Appendix S.

The adjacent landscape to the Upper Willow Brook Pond was restored in accordance with the detailed *Mitigation Plan*. Specifically, the pre-existing topography was restored and the embankments of the pond were seeded with a select erosion control seed mixture along the lower portion and a wildlife conservation seed mixture around the upper portion of the embankments. Woody plant stock, including native shrubs and trees, was planted in communities throughout the embankments as planned. These activities were documented in the *As-Built Documentation* prepared by LEA and submitted to DEP IWRD and the ACOE in September 2002. The referenced document is included in Appendix T.

7.3 Oil/Water Separator

The area of the underground oil/water separator was restored with a composite engineered control including soil and a flexible membrane liner as detailed in the RAWP and as presented above. The limits of the liner were slightly expanded from that originally planned for this area as discussed in the earlier sections of this report. Granular sandy gravel was used above the liner to

facilitate surface drainage and to establish the pre-existing topography of the area. The adequacy of the engineered control construction was monitored and documented throughout the project. The as-built site restoration and engineered control limits are presented on Drawing 7-1. Documentation, including photographs, field measurements and field surveys is included in Appendix S.

The related landscape of the Oil/Water Separator was restored in accordance with the detailed *Mitigation Plan*. Specifically, the pre-existing topography was restored and the surface was prepared with topsoil then seeded and mulched. Since this area is designated to be mowed in the future, the wildlife and erosion control seed mixtures, used elsewhere on this project, were not applied here. No woody plant stock was designated for this area in the *Mitigation Plan*. These activities were similarly documented in the *As-Built Documentation* prepared package referenced above.

7.4 Lower Willow Brook Pond and Process Water Facility

The Lower Willow Brook Pond was restored with a 36-inch soil and stone engineered control as defined for the Upper Willow Brook Pond above. The lateral limits of the engineered control were extended to the predefined horizontal location of the ordinary water level (28.0 feet). The Lower Willow Brook Pond was similarly constructed with a low-flow channel running from the eastern inlet to the dam at the far west end. A second channel was constructed within this pond, to facilitate flow from the storm and process water discharge pipe entering from the southeast corner referred to as DSN-003. The minimum layer thickness defined above was similarly maintained throughout these low-flow channels as required. The as-built site restoration and engineered control limits are presented on Drawing 7-1. Documentation, including photographs, field measurements and field surveys is included in Appendix S.

In accordance with the RAWP, the former process water facility was not restored with an engineered control. This area was remediated to meet the IDEC and RDEC and still has some areas warranting additional evaluation associated with the southern limits. This area, including the former oil basin, was backfilled with clean fill, topsoil was installed and the area was seeded with an erosion control seed mixture.

The remainder of the Lower Willow Brook Pond was restored to match the pre-existing topography. The embankments of the pond were seeded with a select erosion control seed mixture along the lower portion and a wildlife conservation seed mixture around the upper portion of the embankments. Woody plant stock, including native shrubs and trees, was planted in communities throughout the embankments as planned. The Lower Willow Brook Pond was

restored in accordance with the detailed *Mitigation Plan*. These activities were documented in the *As-Built Documentation* package referenced above.

7.5 Willow Brook Stream Channel

The stream channel was restored with a 36-inch soil and stone engineered control engineered control as defined above. The lateral limit of the engineered control was to the 10-year flood elevation (22.0 to 24.0 feet above mean sea level). The stream channel was restored by first installing a stable channel lining of riprap. Due to the "flashy" nature of the hydrology in this urbanized area, a low flow channel was created to provide for continuous aquatic habitat while maintaining the ability to pass required storm flows. Then coarse sand, gravel and cobbles were placed in a 12-inch layer atop the riprap. Flow deflectors, boulders, and a cross-channel drop device were installed to promote the development of a heterogeneous channel with riffles, a pool, and in-stream cover for fish. The as-built site restoration and engineered control limits are presented on Drawing 7-1. Documentation, including photographs, field measurements and field surveys is included in Appendix S.

The channel upper side slopes were constructed at a maximum 1.5 to 1 (horizontal to vertical) slope due to horizontal space constraints. The slope was stabilized with an open weave, permanent geotextile and topsoil and select seed were spread into the voids. Native trees and shrubs were installed through the geotextile to provide wildlife habitat and shade along the stream segment. The Willow Brook Stream Channel was restored in accordance with the detailed *Mitigation Plan*. These activities were documented in the *As-Built Documentation* package referenced above.

7.6 Wetlands Mitigation Area

The Wetland north of Willow Brook was remediated to meet the RDEC. As such, there is no need for an engineered control within this area. The restoration activities performed were focused on restoring this area to a marsh with habitat value. The restoration was effected by backfilling the designated area with 24-inches of granular fill material, prior to application of 12 to 18-inches of organic rich peat.

The lateral limits of the marsh area were defined at the toe of the upland embankment with coir fiber logs to maintain embankment stability. The area was then flooded and planted with native herbaceous wetland plants. Woody plant stock, including native shrubs and trees, were planted in communities throughout the embankments in accordance with the detailed *Mitigation Plan*. These activities were documented in the *As-Built Documentation* package referenced above.

8. FUTURE ACTIVITIES

The permits and approvals issued by the ACOE, DEP IWRD and the DEP Permitting, Enforcement & Remediation Division (PERD) contain specific requirements for various activities that extend beyond the construction period. The mandatory post-remediation activities for this project include monitoring and maintenance of the engineered controls, monitoring and maintenance of the wetland restorations, groundwater monitoring, and recordation of the necessary land use restrictions and demonstrating financial assurance for the engineered control maintenance and monitoring activities. These future activities are further detailed below.

8.1 Monitoring and Maintenance of the Wetland Restorations

The wetland restoration activities need to be monitored for a three-year period. In accordance with Special Condition No. 3 of the ACOE Section 404 permit along with the "additional guidance" submitted separately from the permit, specifically define the requirements for post-construction monitoring and maintenance. Additionally, the DEP IWRD Water Quality Certificate mandates a five-year monitoring program with annual reports to be submitted to DEP. The future maintenance, monitoring and record keeping/reporting activities are specifically detailed in the *Mitigation Plan* (for the wetland marsh), prepared by Loureiro Engineering Associates, Inc., revised in February 2002.

At this juncture, EPS of West Hartford, Connecticut has been retained to assist in the post mitigation monitoring activities associated with the wetland marsh. In general, the mitigation monitoring will extend for the first five full growing seasons. During this monitoring period, remedial actions may be necessary as directed by the biologist/wetland scientist, and could include, but are not limited to, replacement and/or substitution of plant materials, regrading, and nuisance vegetation removal. A final post construction assessment will be prepared five years after construction was completed (August 31, 2007) and submitted to the ACOE and DEP IWRD.

8.2 Monitoring and Maintenance of the Engineered Control

The engineered controls have been designed to require a minimal amount of maintenance. However, in accordance with 22a-133k-2(f)(2)(B)(iii) of the RCSA, "plans for maintenance of the subject release area are adequate to ensure that the structural integrity, design permeability, and effectiveness of the engineered control will be maintained; such plans shall include without limitation measures to prevent run-on and run-off of storm water from eroding or otherwise damaging the engineered control and measures to repair such control to correct the effects of any

settling, subsidence, erosion or other damaging events or conditions". The approved *Post Remediation Maintenance and Monitoring Program,* prepared by Loureiro Engineering Associates, Inc., revised in July 2001, details the specific activities associated with this requirement and the frequency for which they will be performed. The post remediation maintenance and monitoring will continue for the life of the engineered control. An annual report documenting the monitoring and maintenance activities performed will be maintained by UTC/Pratt & Whitney.

8.3 Post-Remediation Groundwater Monitoring

In accordance with Section 22a-133k-2(f)(2)(B) of the RCSA, requires that plans for ground-water monitoring at the subject release area be adequate to ensure that any substance migrating there from will be detected" and Section 22a-133k-3(g)(2) of the same requires that, post-remediation groundwater monitoring be performed to verify the adequacy of the implemented remedy. The approved *Post Remediation Groundwater Monitoring Program,* prepared by LEA, revised in July 2001, details the specific activities associated with this requirement and the frequency for which they will be performed. This document presents the specific groundwater monitoring wells to be sampled, field collection and analytical methods, quality assurance/quality control procedures, program duration, and reporting requirements.

The post-remediation groundwater monitoring will be performed on a quarterly basis for a period of at least two years. On an annual basis, the results of the quarterly sampling will be summarized in a single report. Each annual report will be submitted to the DEP and the EPA for review. Following the completion of the second year of groundwater monitoring, the annual report will include a discussion regarding the compliance status with respect to the requirements of the surface water protection criteria and commercial/industrial volatilization criteria in the RSR. If the site is determined to be in compliance, the report will also contain a discussion regarding the cessation of groundwater monitoring. If the site is determined to not be in compliance, the report will contain a discussion regarding the continuation of groundwater monitoring.

8.4 Environmental Land Use Restrictions

Since engineered controls were used throughout this project as a component of the implemented remedy, ELURs will be necessary to protect these controls from disruption of other activities in the future. In accordance with 22a-133k-2(f)(2)(B)(iv) of the RCSA, "an environmental land use restriction is or will be in effect with respect to the parcel at which the subject release area is located, which restriction ensures that such parcel will not be used in a manner that could disturb the engineered control or the polluted soil". UTC/Pratt & Whitney will file ELURs with the

Town of East Hartford Land Records to ensure the affected area will not be used for residential purposes and to ensure that activities that could disturb the engineered control will not be performed. Draft ELURs will be submitted to the DEP on or prior to November 1, 2002 for approval prior to recording. A public notice period and the Commissioner's signature will be required prior to affecting the actual filing.

In accordance with 22a-133k-2(f)(2)(B)(vi) of the RCSA, "...the owner of the subject parcel shall demonstrate that he has posted or will post a surety in a form and amount approved in writing by the Commissioner, which surety during the first year after installation of the engineered control shall be equal to the cost of one year's maintenance and monitoring of the engineered control, and which in each subsequent year shall be increased in amount by adding an amount equal to the cost of one year's maintenance and monitoring, until the total amount of such surety is equal to the cost of five years of maintenance and monitoring, which amount shall be maintained in effect for the next twenty-five years or for such other period as may be required by the Commissioner." In accordance with the approved Request for variance, UTC presented a demonstration of financial assurance for the maintenance and monitoring of the engineered control by performing the RCRA TSDF financial test specified in 40 CFR section 264.143(f), substituting the costs of maintaining and monitoring the control (as specified in RCSA section 22a-133k-2(f)(2)(B)(vi)) for the closure, post-closure and other RCRA financial test costs (as specified in the RCRA financial test).

UTC will maintain this financial assurance through August 31, 2027 or any shorter period approved by the Department and, during this period, will make the proposed demonstrations annually, on or before the anniversary of the first submission.

TABLES

Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-01-001	2002372	04/11/2002		SS		x	x			X	X	x
WT-CS-01-002	2002373	04/11/2002		SS		x	X			X	X	X
WT-CS-01-003	2002374	04/11/2002		SS		x	X			X	X	X
WT-CS-01-004	2002375	04/11/2002		SS		x	X			X	X	X
WT-CS-02-008	2001193	10/26/2001		SSC						X		
WT-CS-02-009	2001194	10/26/2001		SSC						X		
WT-CS-02-010	2001195	10/26/2001		SSC						X		
WT-CS-02-011	2001196	10/26/2001		SSC						X		
WT-CS-02-012	2001197	10/26/2001		SSC						X		
WT-CS-02-013	2001198	10/26/2001		SSC						X		
WT-CS-02-014	2001199	10/26/2001		SSC						X		
WT-CS-02-014	2001200	10/26/2001		SSC						X		
WT-CS-02-017	2001286	11/09/2001		SSC						X		
WT-CS-02-018	2001287	11/09/2001		SS		x	x			x	X	X
WT-CS-02-019	2001288	11/09/2001		SSC						X		
WT-CS-02-020	2001289	11/09/2001		SS		x	X			X	X	X
WT-CS-02-021	2001290	11/09/2001		SSC						X		
WT-CS-02-022	2001291	11/09/2001		SSC						X		
WT-CS-02-022	2001292	11/09/2001		SSC						X		
WT-CS-02-023	2001293	11/09/2001		SS		x	X			X	X	X
WT-CS-02-024	2001294	11/09/2001		SSC						X		
WT-CS-02-025	2001295	11/09/2001		SS		x	X			X	X	X
WT-CS-02-025	2001296	11/09/2001		SS		x	X			X	X	X
WT-CS-02-026	2001297	11/09/2001		SSC						X		
WT-CS-02-027	2001298	11/09/2001		SS		x	X			X	X	X
WT-CS-02-028	2001299	11/09/2001		SSC						X		
WT-CS-02-029	2001304	11/13/2001		SSC						X		
WT-CS-02-030	2001305	11/13/2001		SS		x	X			X	X	X
WT-CS-02-031	2001306	11/13/2001		SSC						X		
WT-CS-02-031	2001307	11/13/2001		SSC						X		
WT-CS-02-032	2001308	11/13/2001		SS		x	X			X	X	X
WT-CS-02-033	2001367	11/28/2001		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-02-034	2001368	11/28/2001		SS		x	x			x	X	x
WT-CS-02-035	2001369	11/28/2001		SSC						X		
WT-CS-02-036	2001370	11/28/2001		SS		x	X			X	X	X
WT-CS-02-037	2001371	11/28/2001		SSC						x		
WT-CS-02-037	2001372	11/28/2001		SSC						x		
WT-CS-02-038	2001373	11/28/2001		SS		x	x			x	X	x
WT-CS-02-039	2001374	11/28/2001		SSC						x		
WT-CS-02-040	2001375	11/28/2001		SS		x	x			x	X	x
WT-CS-02-041	2001376	11/28/2001		SSC						X		
WT-CS-02-042	2001377	11/28/2001		SS		x	X			x	X	x
WT-CS-02-042	2001378	11/28/2001		SS		x	X			x	X	x
WT-CS-02-051	2001388	11/29/2001		SSC						X		
WT-CS-02-051	2001389	11/29/2001		SSC						X		
WT-CS-02-052	2001390	11/29/2001		SS		x	Xs			X	X	X
WT-CS-02-053	2001391	11/29/2001		SSC						X		
WT-CS-02-054	2001392	11/29/2001		SS		x	X			X	X	x
WT-CS-02-054	2001393	11/29/2001		SS		x	X			x	X	x
WT-CS-02-057	2001396	11/29/2001		SSC						X		
WT-CS-02-058	2001397	11/29/2001		SS		x	X			X	X	X
WT-CS-02-061	2001496	12/12/2001		SS		x	X			x	XS	x
WT-CS-02-062	2001497	12/12/2001		SS		x	X			x	XS	X
WT-CS-02-063	2001498	12/12/2001		SS		x	X			x	XS	x
WT-CS-02-064	2001669	01/10/2002		SS			Xs			X		
WT-CS-02-065	2001670	01/10/2002		SS			x			x		
WT-CS-02-066	2002366	04/09/2002		SSC						X		
WT-CS-02-067	2002367	04/09/2002		SSC						X		
WT-CS-02-068	2002368	04/09/2002		SS		x	X			X	X	X
WT-CS-02-069	2002369	04/09/2002		SSC						X		
WT-CS-02-070	2002370	04/09/2002		SS		x	X			X	X	X
WT-CS-02-071	2002377	04/11/2002		SSC						X		
WT-CS-02-071	2002384	04/11/2002		SS						X		
WT-CS-02-072	2002378	04/11/2002		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-02-073	2002379	04/11/2002		SS						x		
WT-CS-02-074	2002380	04/11/2002		SSC						X		
WT-CS-02-075	2002381	04/11/2002		SS						x	x	
WT-CS-02-076	2002382	04/11/2002		SSC						X		
WT-CS-02-077	2002383	04/11/2002		SS						X		
WT-CS-03-003	2001203	10/26/2001		SSC						X		
WT-CS-03-004	2001204	10/26/2001		SSC						x		
WT-CS-03-005	2001205	10/26/2001		SSC						X		
WT-CS-03-006	2001206	10/26/2001		SSC						X		
WT-CS-03-007	2001276	11/09/2001		SSC						x		
WT-CS-03-008	2001277	11/09/2001		SS		x	X			X	X	X
WT-CS-03-009	2001278	11/09/2001		SSC						x		
WT-CS-03-010	2001279	11/09/2001		SS		x	X			x	X	X
WT-CS-03-011	2001280	11/09/2001		SSC						X		
WT-CS-03-012	2001281	11/09/2001		SS		x	X			X	X	X
WT-CS-03-013	2001282	11/09/2001		SSC						x		
WT-CS-03-014	2001283	11/09/2001		SSC						X		
WT-CS-03-015	2001302	11/12/2001		WIPE						X		
WT-CS-03-016	2001303	11/12/2001		WIPE						x		
WT-CS-03-017	2001317	11/15/2001	6	CC						x		
WT-CS-03-018	2001318	11/15/2001	4	CC						X		
WT-CS-03-019	2001322	11/27/2001		SSC						X		
WT-CS-03-020	2001323	11/27/2001		SS		x	x			X	X	x
WT-CS-03-021	2001324	11/27/2001		SSC						X		
WT-CS-03-022	2001325	11/27/2001		SS		x	X			X	X	x
WT-CS-03-023	2001326	11/27/2001		SSC						x		
WT-CS-03-024	2001327	11/27/2001		SS		x	x			X	X	x
WT-CS-03-025	2001328	11/27/2001		SSC						x		
WT-CS-03-026	2001329	11/27/2001		SS		x	x			x	X	x
WT-CS-03-027	2001337	11/27/2001		SSC						x		
WT-CS-03-028	2001338	11/27/2001		SS		x	x			x	X	x
WT-CS-03-029	2001339	11/27/2001		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
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Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-03-030	2001340	11/27/2001		SS		x	x			x	X	x
WT-CS-03-031	2001341	11/27/2001		SSC						X		
WT-CS-03-031	2001342	11/27/2001		SSC						X		
WT-CS-03-032	2001343	11/27/2001		SS		x	x			x	X	x
WT-CS-03-033	2001344	11/27/2001		SSC						x		
WT-CS-03-034	2001345	11/27/2001		SS		x	x			x	X	x
WT-CS-03-034	2001356	11/27/2001		SS		x	x			x	X	x
WT-CS-03-037	2001361	11/29/2001		SSC						X		
WT-CS-03-038	2001362	11/29/2001		SS		x	x			X	X	x
WT-CS-03-040	2001364	11/29/2001		SS		x	X			x	X	X
WT-CS-03-041	2001365	11/29/2001		SSC						X		
WT-CS-03-042	2001366	11/29/2001		SS		X z	X			x	X	X
WT-CS-03-043	2001401	11/30/2001		SS			X				XS	
WT-CS-03-044	2001434	12/04/2001		SSC						x		
WT-CS-03-045	2001435	12/04/2001		SS		x	X			x	X	X
WT-CS-03-046	2001436	12/04/2001		SSC						x		
WT-CS-03-047	2001437	12/04/2001		SS		x	x			x	X	x
WT-CS-03-048	2001438	12/04/2001		SS		x	x			x	X	x
WT-CS-04-001	2001207	10/30/2001		SSC						x		
WT-CS-04-002	2001208	10/30/2001		SSC						x		
WT-CS-04-003	2001209	10/30/2001		SS						x		
WT-CS-04-004	2001210	10/30/2001		SSC						X		
WT-CS-04-005	2001211	10/30/2001		SSC						X		
WT-CS-04-006	2001212	10/30/2001		SSC						X		
WT-CS-04-007	2001213	10/30/2001		SSC						x		
WT-CS-04-008	2001214	10/30/2001		SSC						X		
WT-CS-04-009	2001215	10/30/2001		SSC						x		
WT-CS-04-010	2001216	10/30/2001		SSC						X		
WT-CS-04-010	2001217	10/30/2001		SSC						X		
WT-CS-04-011	2001218	10/30/2001		SSC						X		
WT-CS-04-012	2001219	10/30/2001		SSC						X		
WT-CS-04-013	2001220	10/30/2001		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-014	2001221	11/05/2001		SSC						x		
WT-CS-04-015	2001222	11/05/2001		SSC						X		
WT-CS-04-015	2001223	11/05/2001		SSC						X		
WT-CS-04-016	2001224	11/05/2001		SSC						X		
WT-CS-04-017	2001225	11/05/2001		SSC						X		
WT-CS-04-018	2001226	11/05/2001		SSC						X		
WT-CS-04-019	2001227	11/05/2001		SSC						X		
WT-CS-04-020	2001228	11/05/2001		SSC						X		
WT-CS-04-021	2001229	11/05/2001		SSC						X		
WT-CS-04-022	2001230	11/05/2001		SSC						X		
WT-CS-04-023	2001231	11/05/2001		SSC						X		
WT-CS-04-024	2001232	11/05/2001		SSC						X		
WT-CS-04-025	2001233	11/05/2001		SSC						X		
WT-CS-04-026	2001234	11/06/2001		SSC						x		
WT-CS-04-027	2001235	11/06/2001		SS		x	x			X	X	x
WT-CS-04-028	2001236	11/06/2001		SSC						X		
WT-CS-04-029	2001237	11/06/2001		SS		x	x			x	X	x
WT-CS-04-030	2001238	11/06/2001		SSC						x		
WT-CS-04-031	2001239	11/06/2001		SS		x	x			x	X	X
WT-CS-04-032	2001240	11/06/2001		SSC						X		
WT-CS-04-033	2001241	11/06/2001		SS		x	X			x	X	X
WT-CS-04-034	2001242	11/06/2001		SSC						X		
WT-CS-04-034	2001244	11/06/2001		SSC						X		
WT-CS-04-035	2001243	11/06/2001		SS		x	x			x	X	x
WT-CS-04-035	2001245	11/06/2001		SS		x	x			x	X	X
WT-CS-04-036	2001246	11/06/2001		SSC						X		
WT-CS-04-037	2001247	11/06/2001		SS		x	X			X	X	X
WT-CS-04-038	2001248	11/06/2001		SSC						X		
WT-CS-04-039	2001249	11/06/2001		SSC						X		
WT-CS-04-040	2001250	11/06/2001		SSC						X		
WT-CS-04-041	2001251	11/06/2001		SS		x	X			X	X	x
WT-CS-04-042	2001252	11/06/2001		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-043	2001253	11/06/2001		SS		x	X			x	X	x
WT-CS-04-044	2001254	11/06/2001		SSC						X		
WT-CS-04-045	2001255	11/06/2001		SS		x	X			X	X	x
WT-CS-04-046	2001256	11/06/2001		SSC						X		
WT-CS-04-047	2001257	11/06/2001		SS		x	X			X	X	X
WT-CS-04-048	2001258	11/06/2001		SSC						X		
WT-CS-04-049	2001259	11/06/2001		SS		x	x			x	X	x
WT-CS-04-050	2001260	11/06/2001		SSC						X		
WT-CS-04-051	2001261	11/06/2001		SS		x	X			X	X	x
WT-CS-04-052	2001262	11/06/2001		SSC						X		
WT-CS-04-053	2001263	11/06/2001		SS		x	X			X	X	X
WT-CS-04-054	2001264	11/06/2001		SSC						X		
WT-CS-04-055	2001265	11/06/2001		SS		x	X			X	X	X
WT-CS-04-056	2001266	11/06/2001		SSC						X		
WT-CS-04-057	2001267	11/06/2001		SS		x	X			X	X	x
WT-CS-04-058	2001268	11/06/2001		SSC						X		
WT-CS-04-059	2001310	11/14/2001		SSC						X		
WT-CS-04-060	2001311	11/14/2001		SSC						x		
WT-CS-04-061	2001312	11/14/2001		SSC						X		
WT-CS-04-061	2001314	11/14/2001		SSC						X		
WT-CS-04-062	2001313	11/14/2001		SSC						X		
WT-CS-04-063	2001319	11/26/2001		CC						X		
WT-CS-04-064	2001409	12/03/2001		SSC						x		
WT-CS-04-065	2001410	12/03/2001		SS		x	X			x	Xs	x
WT-CS-04-068	2001413	12/03/2001		SSC						X		
WT-CS-04-069	2001414	12/03/2001		SS		x	x			x	Xs	x
WT-CS-04-069	2001415	12/03/2001		SS		x	x			x	Xs	x
WT-CS-04-070	2001416	12/03/2001		SSC						X		
WT-CS-04-071	2001417	12/03/2001		SS		x	x			X	Xs	x
WT-CS-04-072	2001418	12/03/2001		SSC						X		
WT-CS-04-072	2001419	12/03/2001		SSC						X		
WT-CS-04-073	2001420	12/03/2001		SS		x	x			x	Xs	x

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-080	2001441	12/05/2001		SS		x	x			X	XS	X
WT-CS-04-081	2001442	12/05/2001		SS		x	x			x	Xs	x
WT-CS-04-082	2001443	12/05/2001		SSC						X		
WT-CS-04-083	2001444	12/05/2001		SS		x	x			X	Xs	x
WT-CS-04-083	2001445	12/05/2001		SS		x	x			X	XS	x
WT-CS-04-084	2001446	12/05/2001		SSC						x		
WT-CS-04-085	2001447	12/05/2001		SS		x	x			X	Xs	x
WT-CS-04-086	2001448	12/05/2001		SSC						X		
WT-CS-04-086	2001449	12/05/2001		SSC						X		
WT-CS-04-087	2001450	12/05/2001		SS		x	x			x	Xs	x
WT-CS-04-089	2001452	12/05/2001		SS		x	x			x	XS	x
WT-CS-04-096	2001466	12/07/2001		SSC						x		
WT-CS-04-097	2001467	12/07/2001		SS		x	x			x	Xs	x
WT-CS-04-098	2001468	12/07/2001		SSC						X		
WT-CS-04-099	2001469	12/07/2001		SS		x	X			x	Xs	x
WT-CS-04-100	2001470	12/07/2001		SSC						X		
WT-CS-04-101	2001471	12/07/2001		SS		x	x			x	Xs	x
WT-CS-04-102	2001472	12/07/2001		SSC						x		
WT-CS-04-103	2001473	12/07/2001		SS		x	x			x	Xs	x
WT-CS-04-106	2001483	12/12/2001		SSC						X		
WT-CS-04-107	2001484	12/12/2001		SS		x	x			x	X	x
WT-CS-04-108	2001485	12/12/2001		SSC						X		
WT-CS-04-109	2001486	12/12/2001		SS		x	x			x	X	x
WT-CS-04-110	2001504	12/17/2001		SSC						X		
WT-CS-04-111	2001505	12/17/2001		SS		x	x			x	X	x
WT-CS-04-112	2001506	12/17/2001		SSC						x		
WT-CS-04-113	2001507	12/17/2001		SS		x	x			x	X	X
WT-CS-04-114	2001508	12/17/2001		SSC						x		
WT-CS-04-115	2001509	12/17/2001		SS		x	x			x	X	x
WT-CS-04-116	2001671	01/10/2002		SS								x
WT-CS-04-117	2002390	04/17/2002		SSC						X		
WT-CS-04-118	2002391	04/17/2002		SS			X			X		

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Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-119	2002392	04/17/2002		SSC						X		
WT-CS-04-120	2002393	04/17/2002		SS			x			x		x
WT-CS-04-121	2002394	04/17/2002		SSC						X		
WT-CS-04-122	2002395	04/17/2002		SS			X			X		x
WT-CS-04-123	2002397	04/22/2002		SSC						x		
WT-CS-04-123	2002398	04/22/2002		SSC						x		
WT-CS-04-124	2002399	04/22/2002		SS						x		
WT-CS-06-001	2001500	12/14/2001		WIPE						X		
WT-CS-06-002	2001501	12/14/2001		WIPE						X		
WT-CS-06-003	2001502	12/14/2001		WIPE						X		
WT-CS-06-004	2001503	12/14/2001		WIPE						X		
WT-CS-06-005	2001511	12/17/2001		SSC						X		
WT-CS-06-006	2001512	12/17/2001		SSC						x		
WT-CS-06-006	2001513	12/17/2001		SSC						X		
WT-CS-06-006	2001539	12/21/2001		SSC						x		
WT-CS-06-006	2001540	12/21/2001		SSC						x		
WT-CS-06-007	2001514	12/17/2001		SSC						x		
WT-CS-06-008	2001515	12/17/2001		SSC						x		
WT-CS-06-009	2001516	12/17/2001		SSC						X		
WT-CS-06-010	2001517	12/17/2001		SSC						X		
WT-CS-06-011	2001518	12/17/2001		SS		x	x			X	Xs	X
WT-CS-06-012	2001519	12/17/2001		SSC						x		
WT-CS-06-013	2001520	12/17/2001		SS		x	x			X	Xs	x
WT-CS-06-014	2001521	12/17/2001		SSC						X		
WT-CS-06-015	2001522	12/17/2001		SS		x	x			x	XS	x
WT-CS-06-015	2001523	12/17/2001		SS		x	X			x	XS	x
WT-CS-06-016	2001320	11/27/2001		WIPE						x		
WT-CS-06-017	2001321	11/27/2001		WIPE						X		
WT-CS-06-018	2001526	12/19/2001		WIPE						x		
WT-CS-06-019	2001527	12/19/2001		WIPE						x		
WT-CS-06-020	2001528	12/19/2001		WIPE						x		
WT-CS-06-021	2001529	12/19/2001		WIPE						x		

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Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-06-022	2001530	12/19/2001		WIPE						x		
WT-CS-06-023	2001531	12/21/2001		SSC						X		
WT-CS-06-024	2001532	12/21/2001		SSC						X		
WT-CS-06-025	2001533	12/21/2001		SS		x	x			X	X	x
WT-CS-06-026	2001534	12/21/2001		SSC						X		
WT-CS-06-027	2001535	12/21/2001		SSC						X		
WT-CS-06-028	2001536	12/21/2001		SS		x	x			x	X	x
WT-CS-06-029	2001537	12/21/2001		SSC						x		
WT-CS-06-030	2001538	12/21/2001		SS		x	x			X	X	x
WT-CS-06-032	2001576	01/02/2002		SSC						x		
WT-CS-06-033	2001577	01/02/2002		SSC						x		
WT-CS-06-034	2001578	01/02/2002		SSC						X		
WT-CS-07-001	2002385	04/17/2002		SS		x	X			X	X	X
WT-CS-07-002	2002386	04/17/2002		SS		x	X			X	X	X
WT-CS-07-003	2002387	04/17/2002		SS		x	X			X	X	X
WT-CS-07-004	2002388	04/17/2002		SS		x	X			X	X	x
WT-CS-07-005	2002389	04/17/2002		SS		x	X			x	X	x
WT-CS-07-006	2002401	04/24/2002		SS						X		
WT-CS-07-007	2002402	04/24/2002		SS						x		
WT-CS-07-008	2002403	04/24/2002		SS						X		
WT-CS-07-009	2002404	04/24/2002		SS						X		
WT-CS-07-012	2002435	05/28/2002		SSC						x		
WT-CS-07-012	2002436	05/28/2002		SSC						x		
WT-CS-07-013	2002437	05/28/2002		SS		x	X			x	X	x
WT-CS-07-014	2002440	05/29/2002		SSC						X		
WT-CS-07-015	2002441	05/29/2002		SS		X	X			X	X	X
WT-CS-07-016	2002442	05/29/2002		SSC						X		
WT-CS-07-017	2002443	05/29/2002		SS		X	X			X	X	X
WT-CS-07-017	2002444	05/29/2002		SS		X	X			X	X	X
WT-CS-07-018	2002445	05/29/2002		SSC						X		
WT-CS-07-019	2002446	05/29/2002		SS		x	X			X	X	X
WT-CS-07-020	2002447	05/29/2002		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-07-021	2002448	05/29/2002		SS		x	x			X	X	X
WT-CS-07-022	2002449	05/29/2002		SSC						X		
WT-CS-07-023	2002450	05/29/2002		SS		X	X			X	X	X
WT-CS-07-024	2002455	05/30/2002		SSC						x		
WT-CS-07-025	2002459	05/30/2002		SSC						x		
WT-CS-07-026	2002460	05/30/2002		SS		x	X			x	X	x
WT-CS-07-027	2002461	05/30/2002		SSC						x		
WT-CS-07-028	2002462	05/30/2002		SS		x	x			x	X	x
WT-CS-07-030	2002498	06/10/2002		SS		x	X			X	X	X
WT-CS-07-031	2002499	06/10/2002		SS		x	X			X	X	x
WT-CS-07-032	2002500	06/10/2002		SS		x	X			X	X	x
WT-CS-07-033	2002501	06/10/2002		SS		x	X			X	X	X
WT-CS-07-034	2002502	06/10/2002		CC						x		
WT-CS-07-034	2002503	06/10/2002		CC						x		
WT-CS-07-034	2002507	06/10/2002		CC		x	x				X	x
WT-CS-08-001	2001541	12/21/2001		SSC						x		
WT-CS-08-001	2001542	12/21/2001		SSC						x		
WT-CS-08-003	2001544	12/21/2001		SSC						X		
WT-CS-08-005	2001601	01/04/2002		SS						x		
WT-CS-08-006	2001602	01/04/2002		SS						x		
WT-CS-08-007	2001603	01/04/2002		SS						x		
WT-CS-08-008	2001604	01/04/2002		SS						x		
WT-CS-08-009	2001605	01/04/2002		SS		x	x			x	X	x
WT-CS-08-009	2001606	01/04/2002		SS		x	x			X	X	x
WT-CS-08-010	2001607	01/04/2002		SS						X		
WT-CS-08-011	2001608	01/04/2002		SS		x	x			x	X	x
WT-CS-08-012	2001629	01/08/2002		WIPE						x		
WT-CS-08-013	2001630	01/08/2002		WIPE						x		
WT-CS-08-014	2001631	01/08/2002		WIPE						x		
WT-CS-08-015	2001632	01/08/2002		WIPE						x		
WT-CS-08-016	2001633	01/08/2002		WIPE						x		
WT-CS-08-017	2001634	01/08/2002		WIPE						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-08-018	2001635	01/08/2002		WIPE						x		
WT-CS-08-019	2001636	01/08/2002		WIPE						x		
WT-CS-08-020	2001638	01/09/2002		SSC						X		
WT-CS-08-021	2001639	01/09/2002		SSC						X		
WT-CS-08-022	2001640	01/09/2002		SSC						x		
WT-CS-08-022	2001641	01/09/2002		SSC						x		
WT-CS-08-023	2001642	01/09/2002		SS		x	x			x	X	x
WT-CS-08-024	2001643	01/09/2002		SSC						X		
WT-CS-08-025	2001644	01/09/2002		SS		x	X			X	X	X
WT-CS-08-025	2001645	01/09/2002		SS		x	X			X	X	X
WT-CS-08-026	2001691	01/16/2002		WIPE						x		
WT-CS-08-027	2001692	01/16/2002		WIPE						x		
WT-CS-08-028	2001693	01/16/2002		WIPE						X		
WT-CS-08-028	2001694	01/16/2002		WIPE						x		
WT-CS-08-029	2001695	01/16/2002		WIPE						x		
WT-CS-08-030	2001696	01/16/2002		WIPE						X		
WT-CS-08-031	2001697	01/16/2002		WIPE						X		
WT-CS-08-032	2001698	01/16/2002		WIPE						X		
WT-CS-08-033	2001719	01/18/2002		SS						x		x
WT-CS-08-034	2001720	01/18/2002		SS						x		x
WT-CS-08-035	2001727	01/18/2002		SSC						x		
WT-CS-08-036	2001728	01/18/2002		SSC						X		
WT-CS-08-037	2001729	01/18/2002		SSC						x		
WT-CS-08-037	2001730	01/18/2002		SSC						x		
WT-CS-08-038	2001731	01/18/2002		SSC						X		
WT-CS-08-039	2001759	01/24/2002		SSC						x		
WT-CS-08-040	2002424	05/23/2002		WIPE						x		
WT-CS-08-041	2002425	05/23/2002		WIPE						x		
WT-CS-08-042	2002497	06/03/2002		WIPE						X		
WT-CS-08-043	2002406	05/20/2002		SSC						x		
WT-CS-08-044	2002420	05/23/2002		SSC						X		
WT-CS-08-045	2002421	05/23/2002		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-08-046	2002422	05/23/2002		WIPE						X		
WT-CS-08-047	2002423	05/23/2002		WIPE						x		
WT-CS-09-007	2001554	12/28/2001		SSC						X		
WT-CS-09-008	2001555	12/28/2001		SSC						X		
WT-CS-09-009	2001556	12/28/2001		SSC						x		
WT-CS-09-011	2001558	12/28/2001		SSC						X		
WT-CS-09-013	2001560	12/31/2001		SSC						X		
WT-CS-09-014	2001561	12/31/2001		SSC						x		
WT-CS-09-015	2001562	12/31/2001		SSC						X		
WT-CS-09-016	2001563	01/02/2002		SSC						x		
WT-CS-09-017	2001564	01/02/2002		SSC						x		
WT-CS-09-018	2001565	01/02/2002		SSC						x		
WT-CS-09-019	2001566	01/02/2002		SSC						x		
WT-CS-09-019	2001567	01/02/2002		SSC						x		
WT-CS-09-020	2001568	01/02/2002		SSC						X		
WT-CS-09-021	2001569	01/02/2002		SSC						X		
WT-CS-09-025	2001573	01/02/2002		SSC						x		
WT-CS-09-026	2001574	01/02/2002		SSC						x		
WT-CS-09-027	2001575	01/02/2002		SSC						x		
WT-CS-09-030	2001582	01/03/2002		SS		x	X			x	X	x
WT-CS-09-031	2001583	01/03/2002		SS		x	x			x	X	x
WT-CS-09-032	2001584	01/03/2002		SS		x	x			X	X	x
WT-CS-09-033	2001585	01/03/2002		SS		x	x			x	X	X
WT-CS-09-034	2001586	01/03/2002		SS		x	X			X	X	x
WT-CS-09-035	2001587	01/03/2002		SS		x	x			x	X	x
WT-CS-09-036	2001588	01/03/2002		SS		x	X			X	X	x
WT-CS-09-037	2001589	01/03/2002		SS		x	x			x	X	x
WT-CS-09-038	2001590	01/03/2002		SS		x	x			x	X	x
WT-CS-09-039	2001591	01/03/2002		SS		x	x			x	X	x
WT-CS-09-040	2001592	01/03/2002		SS		x	x			x	X	x
WT-CS-09-041	2001593	01/03/2002		SS		x	X			x	X	x
WT-CS-09-042	2001594	01/03/2002		SS		x	x			x	X	x

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-09-043	2001595	01/03/2002		SS		x	x			x	X	x
WT-CS-09-044	2001596	01/03/2002		SS		x	x			x	X	x
WT-CS-09-045	2001597	01/03/2002		SS		x	x			X	X	x
WT-CS-09-046	2001598	01/03/2002		SS		x	x			x	X	x
WT-CS-09-047	2001665	01/10/2002		SSC						x		
WT-CS-09-048	2001666	01/10/2002		SSC						x		
WT-CS-09-049	2001667	01/10/2002		SS		x	x			x	X	x
WT-CS-09-050	2001668	01/10/2002		SS			x					
WT-CS-09-051	2001755	01/24/2002		SSC						x		
WT-CS-09-052	2001756	01/24/2002		SS		x	x			X	X	X
WT-CS-09-053	2001757	01/24/2002		SSC						x		
WT-CS-09-054	2001758	01/24/2002		SS		x	x			x	X	x
WT-CS-09-055	2001789	01/29/2002		SSC						x		
WT-CS-09-056	2001790	01/29/2002		SS		x	x			x	X	X
WT-CS-09-057	2001791	01/29/2002		SSC						x		
WT-CS-09-058	2001792	01/29/2002		SS		x	X			X	XS	X
WT-CS-09-059	2001793	01/29/2002		SSC						X		
WT-CS-09-060	2001794	01/29/2002		SS		x	X			X	X	X
WT-CS-09-061	2001795	01/29/2002		SSC						X		
WT-CS-09-062	2001796	01/29/2002		SS		x	X			X	X	X
WT-CS-09-063	2001804	01/30/2002		SSC						x		
WT-CS-09-064	2001805	01/30/2002		SS		x	x			x	X	x
WT-CS-09-065	2002405	05/17/2002		SSC						x		
WT-CS-09-066	2002407	05/22/2002		SSC						X		
WT-CS-09-067	2002408	05/22/2002		SS		x	x			x	X	x
WT-CS-09-068	2002409	05/22/2002		SSC						X		
WT-CS-09-069	2002410	05/22/2002		SS		x	X			X	X	X
WT-CS-09-070	2002411	05/22/2002		SSC						X		
WT-CS-09-071	2002412	05/22/2002		SS		x	X			X	X	X
WT-CS-09-072	2002439	05/29/2002		SSC						x		
WT-CS-09-073	2002452	05/30/2002		SSC						x		
WT-CS-09-074	2002453	05/30/2002		SSC						x		

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-09-075	2002454	05/30/2002		SSC						x		
WT-CS-09-076	2002463	05/30/2002		SSC						X		
WT-CS-09-077	2002464	05/30/2002		SS		X	X			X	X	X
WT-CS-09-078	2002465	05/30/2002		SSC						X		
WT-CS-09-079	2002466	05/30/2002		SS		x	X			X	X	X
WT-CS-09-080	2002467	05/30/2002		SSC						X		
WT-CS-09-081	2002468	05/30/2002		SS		x	x			X	X	X
WT-CS-09-082	2002469	05/30/2002		SSC						x		
WT-CS-09-083	2002470	05/30/2002		SS		x	X			X	X	X
WT-CS-09-084	2002471	05/30/2002		SSC						X		
WT-CS-09-085	2002472	05/30/2002		SS		x	X			X	X	X
WT-CS-09-086	2002473	05/30/2002		SSC						X		
WT-CS-09-087	2002474	05/30/2002		SS		x	X			X	X	X
WT-CS-09-088	2002475	05/30/2002		SSC						X		
WT-CS-09-089	2002476	05/30/2002		SS		x	X			X	X	X
WT-CS-09-090	2002477	05/30/2002		SSC						X		
WT-CS-09-091	2002478	05/30/2002		SS		x	X			X	X	X
WT-CS-09-091	2002479	05/30/2002		SS		x	X			X	X	X
WT-CS-09-092	2002480	05/30/2002		SSC						X		
WT-CS-09-093	2002481	05/30/2002		SS		x	X			X	X	X
WT-CS-09-094	2002482	05/30/2002		SSC						X		
WT-CS-09-095	2002483	05/30/2002		SS		x	X			X	X	X
WT-CS-09-096	2002484	05/30/2002		SSC						X		
WT-CS-09-097	2002485	05/30/2002		SS		x	X			x	X	x
WT-CS-09-098	2002486	05/30/2002		SSC						X		
WT-CS-09-099	2002487	05/30/2002		SS		x	X			X	X	X
WT-CS-10-001	2001787	01/29/2002		SSC						x		
WT-CS-10-001	2001788	01/29/2002		SSC						x		
WT-CS-10-002	2001806	01/30/2002		SSC						x		
WT-CS-10-009	2001835	02/07/2002		SSC						X		
WT-CS-10-010	2001836	02/07/2002		SS		x	x			x	X	x
WT-CS-10-011	2001837	02/07/2002		SSC						X		

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-10-012	2001838	02/07/2002		SS		x	X			X	X	X
WT-CS-10-013	2001839	02/07/2002		SSC						X		
WT-CS-10-014	2001840	02/07/2002		SS		x	X			X	X	X
WT-CS-10-016	2002519	06/13/2002		SS						X		
WT-CS-11-001	2001616	01/07/2002		SSC						x		
WT-CS-11-002	2001617	01/07/2002		SSC						x		
WT-CS-11-003	2001618	01/07/2002		SSC						x		
WT-CS-11-004	2001619	01/07/2002		SSC						x		
WT-CS-11-005	2001620	01/07/2002		SS		x	x			x	X	x
WT-CS-11-006	2001621	01/07/2002		SSC						X		
WT-CS-11-007	2001622	01/07/2002		SS		x	x			x	X	x
WT-CS-11-008	2001623	01/07/2002		SSC						x		
WT-CS-11-009	2001624	01/07/2002		SS		x	x			x	X	x
WT-CS-11-012	2001653	01/09/2002		SSC						x		
WT-CS-11-013	2001654	01/09/2002		SSC						x		
WT-CS-11-014	2001655	01/09/2002		SSC						X		
WT-CS-11-015	2001656	01/09/2002		SSC						x		
WT-CS-11-016	2001657	01/09/2002		SS		x	x			x	X	x
WT-CS-11-017	2001658	01/09/2002		SSC						x		
WT-CS-11-018	2001659	01/09/2002		SS		x	x			x	X	x
WT-CS-11-019	2001660	01/09/2002		SSC						x		
WT-CS-11-020	2001661	01/09/2002		SS		x	x			x	X	x
WT-CS-11-021	2001662	01/09/2002		SS						X		
WT-CS-11-022	2001663	01/09/2002		SS		x	x			X	X	x
WT-CS-11-024	2001673	01/14/2002		SSC						X		
WT-CS-11-025	2001674	01/15/2002		WOOD						X		
WT-CS-11-026	2001675	01/15/2002		WOOD						X		
WT-CS-11-027	2001676	01/15/2002		WOOD						X		
WT-CS-11-027	2002431	05/29/2002		WOOD						x		
WT-CS-11-027	2002456	05/29/2002		WOOD						x		
WT-CS-11-028	2001677	01/15/2002		WOOD						X		
WT-CS-11-028	2002430	05/29/2002		WOOD						x		

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-11-029	2001678	01/15/2002		WOOD						X		
WT-CS-11-029	2002428	05/24/2002		WOOD						x		
WT-CS-11-030	2001679	01/15/2002		WOOD						x		
WT-CS-11-031	2001680	01/15/2002		WOOD						X		
WT-CS-11-032	2001681	01/15/2002		WOOD						X		
WT-CS-11-032	2001682	01/15/2002		WOOD						X		
WT-CS-11-032	2002426	05/24/2002		WOOD						x		
WT-CS-11-033	2001683	01/15/2002		WOOD						x		
WT-CS-11-034	2001684	01/15/2002		WOOD						x		
WT-CS-11-035	2001685	01/15/2002		WOOD						X		
WT-CS-11-035	2002427	05/24/2002		WOOD						x		
WT-CS-11-036	2001686	01/15/2002		WOOD						x		
WT-CS-11-037	2001687	01/15/2002		WOOD						x		
WT-CS-11-038	2001688	01/15/2002		WOOD						X		
WT-CS-11-039	2001700	01/16/2002		SSC						X		
WT-CS-11-040	2001701	01/16/2002		SSC						x		
WT-CS-11-041	2001702	01/16/2002		SSC						X		
WT-CS-11-042	2001703	01/16/2002		SS		x	x			x	X	x
WT-CS-11-045	2001713	01/16/2002		WIPE						X		
WT-CS-11-046	2001714	01/16/2002		WIPE						X		
WT-CS-11-047	2001715	01/16/2002		WIPE						x		
WT-CS-11-047	2001716	01/16/2002		WIPE						x		
WT-CS-11-048	2001721	01/18/2002		SSC						x		
WT-CS-11-049	2001722	01/18/2002		SS		x	X			x	X	X
WT-CS-11-050	2001723	01/18/2002		SSC						X		
WT-CS-11-051	2001724	01/18/2002		SS		x	X			X	X	X
WT-CS-11-052	2001725	01/18/2002		SSC						X		
WT-CS-11-053	2001726	01/18/2002		SSC						x		
WT-CS-11-054	2001739	01/22/2002		WOOD						x		
WT-CS-11-055	2001740	01/22/2002		WOOD						X		
WT-CS-11-055	2002429	05/24/2002		WOOD						X		
WT-CS-11-056	2001741	01/22/2002		WIPE						X		

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WT-CS-11-057	2001742	01/22/2002		WIPE						X		
WT-CS-11-058	2001743	01/22/2002		WIPE						X		
WT-CS-11-059	2001744	01/22/2002		WIPE						X		
WT-CS-11-060	2001745	01/22/2002		WIPE						X		
WT-CS-11-061	2001746	01/22/2002		WIPE						X		
WT-CS-11-062	2001747	01/22/2002		WIPE						X		
WT-CS-11-063	2001748	01/22/2002		WIPE						X		
WT-CS-11-064	2001751	01/23/2002		SSC						X		
WT-CS-11-065	2001752	01/23/2002		SS						X		X
WT-CS-11-066	2001753	01/23/2002		SSC						X		
WT-CS-11-067	2001754	01/23/2002		SS						x		
WT-CS-11-068	2001936	02/21/2002		WIPE						X		
WT-CS-11-069	2001937	02/21/2002		WIPE						X		
WT-CS-11-070	2001938	02/21/2002		WIPE						X		
WT-CS-11-071	2001939	02/21/2002		WIPE						X		
WT-CS-11-072	2001940	02/21/2002		WIPE						X		
WT-CS-11-073	2001941	02/21/2002		WIPE						X		
WT-CS-11-074	2001942	02/21/2002		WIPE						X		
WT-CS-11-075	2001943	02/21/2002		WIPE						X		
WT-CS-11-076	2001977	03/12/2002		CC						x		
WT-CS-11-077	2001978	03/12/2002		CC						X		
WT-CS-11-078	2001979	03/12/2002		CC						X		
WT-CS-11-079	2002508	06/13/2002		WIPE						x		
WT-CS-11-080	2002509	06/13/2002		WIPE						X		
WT-CS-11-081	2002510	06/13/2002		WIPE						X		
WT-CS-11-082	2002511	06/13/2002		WIPE						X		
WT-CS-11-082	2002512	06/13/2002		WIPE						x		
WT-CS-11-083	2002514	06/13/2002		WIPE						X		
WT-CS-11-084	2002515	06/13/2002		WIPE						X		
WT-CS-11-085	2002516	06/13/2002		WIPE						X		
WT-CS-11-086	2002517	06/13/2002		WIPE						X		
WT-CS-12-001	2001761	01/25/2002		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-12-002	2001762	01/25/2002	0	SS		x	x			x	X	X
WT-CS-12-005	2001765	01/25/2002		SSC						x		
WT-CS-12-007	2001767	01/25/2002		SSC						x		
WT-CS-12-009	2001769	01/25/2002		SSC						x		
WT-CS-12-017	2001778	01/25/2002		SSC						x		
WT-CS-12-018	2001779	01/25/2002		SS		x	x			x	X	x
WT-CS-12-019	2001845	02/11/2002		SSC						x		
WT-CS-12-020	2001846	02/11/2002		SS		x	x			x	X	x
WT-CS-12-021	2001847	02/11/2002		SSC						x		
WT-CS-12-022	2001848	02/11/2002		SS		x	x			x	X	x
WT-CS-12-023	2001849	02/11/2002		SSC						x		
WT-CS-12-024	2001850	02/11/2002		SS		x	x			x	X	x
WT-CS-12-025	2001851	02/11/2002		SSC						x		
WT-CS-12-026	2001852	02/11/2002		SS		x	x			x	X	x
WT-CS-12-027	2001853	02/11/2002		SSC						x		
WT-CS-12-028	2001854	02/11/2002		SS		x	x			x	X	x
WT-CS-12-029	2001855	02/11/2002		SSC						x		
WT-CS-12-030	2001856	02/11/2002		SS		x	x			x	X	x
WT-CS-12-031	2001857	02/11/2002		SSC						x		
WT-CS-12-032	2001858	02/11/2002		SS		x	x			x	X	X
WT-CS-12-032	2001859	02/11/2002		SS		x	x			x	X	X
WT-CS-12-033	2001868	02/13/2002		SSC						X		
WT-CS-12-034	2001869	02/13/2002		SS		x	x			x	X	x
WT-CS-12-035	2001870	02/13/2002		SSC						X		
WT-CS-12-036	2001871	02/13/2002		SS		x	x			x	X	x
WT-CS-12-037	2001872	02/13/2002		SSC						x		
WT-CS-12-038	2001873	02/13/2002		SS		x	x			x	X	x
WT-CS-12-039	2001875	02/14/2002		SSC						x		
WT-CS-12-040	2001876	02/14/2002		SS		x	x			x	X	x
WT-CS-12-041	2001877	02/14/2002		SSC						x		
WT-CS-12-042	2001878	02/14/2002		SS		x	x			x	X	x
WT-CS-12-043	2001879	02/14/2002		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-12-044	2001880	02/14/2002		SS		x	x			x	X	x
WT-CS-12-045	2001881	02/14/2002		SSC						x		
WT-CS-12-046	2001882	02/14/2002		SS		x	x			x	X	x
WT-CS-12-047	2001883	02/14/2002		SSC						x		
WT-CS-12-047	2001884	02/14/2002		SSC						x		
WT-CS-12-048	2001885	02/14/2002		SS		x	x			x	X	x
WT-CS-12-049	2001886	02/14/2002		SS								x
WT-CS-12-050	2001887	02/14/2002		SS								x
WT-CS-12-051	2001895	02/15/2002		SSC						x		
WT-CS-12-052	2001896	02/15/2002		SS		x	x			x	X	x
WT-CS-12-053	2001897	02/15/2002		SSC						x		
WT-CS-12-054	2001898	02/15/2002		SS		x	x			x	X	x
WT-CS-12-055	2001899	02/15/2002		SSC						x		
WT-CS-12-056	2001900	02/15/2002		SS		x	x			x	X	x
WT-CS-12-057	2001901	02/15/2002		SS								x
WT-CS-12-058	2001902	02/15/2002		SS								x
WT-CS-12-059	2001905	02/19/2002		SSC						x		
WT-CS-12-060	2001906	02/19/2002		SS		x	x			x	X	x
WT-CS-12-061	2001907	02/19/2002		SSC						x		
WT-CS-12-062	2001908	02/19/2002		SS		x	x			x	X	x
WT-CS-12-063	2001909	02/19/2002		SSC						x		
WT-CS-12-064	2001910	02/19/2002		SS		x	x			x	X	x
WT-CS-12-065	2001911	02/19/2002		SSC						x		
WT-CS-12-066	2001912	02/19/2002		SS		x	x			x	X	x
WT-CS-12-067	2001913	02/19/2002		SSC						x		
WT-CS-12-068	2001914	02/19/2002		SS		x	x			x	X	x
WT-CS-12-069	2001915	02/19/2002		SSC						x		
WT-CS-12-070	2001916	02/19/2002		SS		x	x			x	X	x
WT-CS-12-071	2001917	02/19/2002		SSC						x		
WT-CS-12-072	2001918	02/19/2002		SS		x	x			x	X	x
WT-CS-12-073	2001919	02/19/2002		SSC						x		
WT-CS-12-074	2001920	02/19/2002		SS								x

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-12-075	2001921	02/19/2002		SS			Xs					x
WT-CS-12-076	2001922	02/19/2002		SS						x		
WT-CS-12-077	2001930	02/20/2002		SSC						x		
WT-CS-12-077	2001931	02/20/2002		SSC						x		
WT-CS-12-078	2001932	02/20/2002		SS		x	x			x	X	x
WT-CS-12-079	2001933	02/20/2002		SSC						x		
WT-CS-12-080	2001934	02/20/2002		SS		x	x			x	X	x
WT-CS-12-081	2001944	02/22/2002		SSC						x		
WT-CS-12-082	2001945	02/22/2002		SS		x	x			x	X	x
WT-CS-12-083	2001946	02/22/2002		SSC						x		
WT-CS-12-084	2001947	02/22/2002		SS		x	x			x	X	x
WT-CS-12-086	2001951	02/26/2002		SS		x	x			x	X	x
WT-CS-12-087	2001952	02/26/2002		SSC						x		
WT-CS-12-088	2001953	02/26/2002		SS		x	x			x	X	x
WT-CS-12-089	2001954	02/26/2002		SSC						x		
WT-CS-12-090	2001955	02/26/2002		SS		x	x			x	X	x
WT-CS-12-091	2001963	02/28/2002		SSC						x		
WT-CS-12-092	2001964	02/28/2002		SS		x	x			x	X	X
WT-CS-12-093	2001965	02/28/2002		SSC						X		
WT-CS-12-094	2001966	02/28/2002		SS		x	x			x	X	X
WT-CS-12-095	2001967	02/28/2002		SSC						X		
WT-CS-12-096	2001968	02/28/2002		SS		x	X			X	X	X
WT-CS-12-096	2001970	03/12/2002		SS			s					
WT-CS-12-097	2001971	03/12/2002		SSC						x		
WT-CS-12-098	2001972	03/12/2002		SS		x	x			x	X	X
WT-CS-12-099	2001973	03/12/2002		SSC						x		
WT-CS-12-100	2001974	03/12/2002		SS		x	x			x	X	X
WT-CS-12-101	2001975	03/12/2002		SSC						x		
WT-CS-12-102	2001976	03/12/2002		SS		x	x			x	X	X
WT-CS-12-103	2001990	03/18/2002		SSC						x		
WT-CS-12-104	2001991	03/18/2002		SS		x	x			x	X	x
WT-CS-12-105	2002354	03/22/2002		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-12-108	2002357	03/22/2002		SSC						X		
WT-CS-12-109	2002358	03/22/2002		SS		x	x			x	X	x
WT-CS-12-110	2002359	03/22/2002		SSC						x		
WT-CS-12-111	2002360	03/22/2002		SS		x	X			x	X	x
WT-CS-12-112	2002361	03/22/2002		SSC						x		
WT-CS-12-113	2002362	03/22/2002		SS		x	X			X	X	x
WT-CS-12-114	2002364	03/26/2002		SSC						X		
WT-CS-12-116	2002169	03/28/2002		SS						x		
WT-CS-13-001	2001815	02/05/2002		SSC						x		
WT-CS-13-002	2001816	02/05/2002		SS		x	X			X	X	X
WT-CS-13-003	2001817	02/05/2002		SSC						X		
WT-CS-13-004	2001818	02/05/2002		SS		x	x			X	X	X
WT-CS-13-005	2001819	02/05/2002		SSC						X		
WT-CS-13-006	2001820	02/05/2002		SS		x	x			X	X	X
WT-CS-13-013	2001830	02/06/2002		SSC						x		
WT-CS-13-014	2001831	02/06/2002		SSC						x		
WT-CS-13-015	2001832	02/06/2002		SSC						X		
WT-CS-13-016	2001833	02/06/2002		SSC						x		
WT-CS-13-017	2001834	02/06/2002		SSC						x		
WT-CS-13-018	2001843	02/07/2002		SSC						x		
WT-CS-13-019	2001981	03/14/2002		SSC						X		
WT-CS-13-020	2001982	03/14/2002		SS		X	X			X	X	X
WT-CS-13-021	2001983	03/14/2002		SSC						x		
WT-CS-13-022	2001984	03/14/2002		SS		x	X			x	X	x
WT-CS-13-023	2001985	03/14/2002		SSC						X		
WT-CS-13-024	2001986	03/14/2002		SS		x	x			X	X	X
WT-CS-13-025	2001987	03/14/2002		SSC						X		
WT-CS-13-026	2001988	03/14/2002		SS		x	X			X	X	X
WT-CS-13-027	2001993	03/18/2002		SSC						x		
WT-CS-13-028	2001994	03/18/2002		SSC						x		
WT-CS-13-029	2001997	03/20/2002		SSC						X		
WT-CS-13-030	2001998	03/20/2002		SS		x	X			X	X	X

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-1
LIST OF CONFIRMATORY SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-13-030	2001999	03/20/2002		SS		x	X			X	X	X
WT-CS-13-031	2002000	03/20/2002		SSC						X		
WT-CS-13-032	2002001	03/20/2002		SS		x	X			X	X	X
WT-CS-13-033	2002002	03/20/2002		SSC						X		
WT-CS-13-034	2002003	03/20/2002		SS		x	x			X	X	X
WT-CS-13-035	2002005	03/21/2002		SSC						x		
WT-CS-13-036	2002346	03/21/2002		SSC						X		
WT-CS-13-037	2002347	03/21/2002		SSC						x		
WT-CS-13-038	2002348	03/22/2002		SSC						X		
WT-CS-13-039	2002349	03/22/2002		SS		x	X			X	X	X
WT-CS-13-040	2002350	03/22/2002		SSC						X		
WT-CS-13-041	2002351	03/22/2002		SS		x	X			X	X	X
WT-CS-13-042	2002352	03/22/2002		SSC						X		
WT-CS-13-043	2002353	03/22/2002		SS		x	X			X	X	X
WT-CS-15-001	2001992	03/18/2002		SSC						X		
WT-CS-15-002	2001996	03/19/2002		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-2
SUMMARY OF SAMPLES REMOVED FROM CONFIRMATORY SAMPLE LIST
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-02-001	2001186	10/26/2001		SRS						X		
WT-CS-02-002	2001187	10/26/2001		SRS						X		
WT-CS-02-003	2001188	10/26/2001		SRS						X		
WT-CS-02-004	2001189	10/26/2001		SRS						X		
WT-CS-02-005	2001190	10/26/2001		SRS						X		
WT-CS-02-006	2001191	10/26/2001		SRS						X		
WT-CS-02-007	2001192	10/26/2001		SRS						X		
WT-CS-02-015	2001284	11/09/2001		SRS						X		
WT-CS-02-016	2001285	11/09/2001		SRS		x	x			X	X	X
WT-CS-02-043	2001379	11/28/2001		SRS						X		
WT-CS-02-044	2001380	11/28/2001		SRS		x	x			X	X	x
WT-CS-02-045	2001381	11/28/2001		SRS						X		
WT-CS-02-046	2001382	11/28/2001		SRS		x	x			x	X	x
WT-CS-02-047	2001383	11/28/2001		SRS						X		
WT-CS-02-048	2001384	11/28/2001		SRS		x	X			X	X	X
WT-CS-02-049	2001386	11/29/2001		SRS						X		
WT-CS-02-050	2001387	11/29/2001		SRS		x	Xs			X	X	X
WT-CS-02-055	2001394	11/29/2001		SRS						X		
WT-CS-02-056	2001395	11/29/2001		SRS		x	X			X	X	X
WT-CS-02-059	2001494	12/12/2001		SRS		x	X			X	XS	X
WT-CS-02-060	2001495	12/12/2001		SRS		x	X			X	XS	X
WT-CS-03-001	2001201	10/26/2001		SRS						X		
WT-CS-03-002	2001202	10/26/2001		SRS						X		
WT-CS-03-035	2001359	11/29/2001		SRS						X		
WT-CS-03-036	2001360	11/29/2001		SRS		x	Xs			X	X	X
WT-CS-03-039	2001363	11/29/2001		SRS						X		
WT-CS-04-066	2001411	12/03/2001		SRS						X		
WT-CS-04-067	2001412	12/03/2001		SRS		x	x			x	Xs	x
WT-CS-04-074	2001421	12/03/2001		SRS						X		
WT-CS-04-075	2001422	12/03/2001		SRS		x	x			X	XS	x
WT-CS-04-076	2001423	12/03/2001		SRS						X		
WT-CS-04-077	2001424	12/03/2001		SRS		x	x			X	Xs	x

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Table 4-2
SUMMARY OF SAMPLES REMOVED FROM CONFIRMATORY SAMPLE LIST
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-078	2001425	12/03/2001		SRS						X		
WT-CS-04-079	2001426	12/03/2001		SRS		x	x			X	Xs	x
WT-CS-04-088	2001451	12/05/2001		SRS						X		
WT-CS-04-090	2001453	12/05/2001		SRS						X		
WT-CS-04-091	2001454	12/05/2001		SRS		x	X			X	XS	X
WT-CS-04-092	2001455	12/05/2001		SRS						X		
WT-CS-04-093	2001456	12/05/2001		SRS		x	x			x	Xs	x
WT-CS-04-094	2001464	12/07/2001		SRS						X		
WT-CS-04-095	2001465	12/07/2001		SRS		x	X			X	Xs	x
WT-CS-04-104	2001481	12/12/2001		SRS						X		
WT-CS-04-105	2001482	12/12/2001		SRS		x	x			X	X	x
WT-CS-07-010	**2002432**	**05/24/2002**		SRS						X		
WT-CS-07-011	**2002433**	**05/24/2002**		SRS		x	x			x	X	x
WT-CS-08-002	**2001543**	**12/21/2001**		SRS						x		
WT-CS-08-004	2001545	12/21/2001		SRS						X		
WT-CS-09-001	2001546	12/21/2001		SRS						X		
WT-CS-09-002	2001547	12/21/2001		SRS						x		
WT-CS-09-003	2001548	12/21/2001		SRS						x		
WT-CS-09-004	2001551	12/27/2001		SRS						X		
WT-CS-09-005	2001552	12/27/2001		SRS						X		
WT-CS-09-006	2001553	12/27/2001		SRS						X		
WT-CS-09-010	2001557	12/28/2001		SRS						X		
WT-CS-09-012	2001559	12/28/2001		SRS						X		
WT-CS-09-022	2001570	01/02/2002		SRS						X		
WT-CS-09-023	2001571	01/02/2002		SRS						X		
WT-CS-09-024	2001572	01/02/2002		SRS						X		
WT-CS-09-028	2001580	01/03/2002		SRS						X		
WT-CS-09-029	2001581	01/03/2002		SRS		x	X			X	X	X
WT-CS-10-003	2001807	01/30/2002		SRS						X		
WT-CS-10-004	2001808	01/30/2002		SRS		x	x			x	X	x
WT-CS-10-005	2001809	01/30/2002		SRS						X		
WT-CS-10-006	2001810	01/30/2002		SRS		x	x			x	X	x

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 4-2
SUMMARY OF SAMPLES REMOVED FROM CONFIRMATORY SAMPLE LIST
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-10-007	2001811	01/30/2002		SRS						X		
WT-CS-10-008	2001812	01/30/2002		SRS		x	X			X	X	X
WT-CS-10-015	2001841	02/07/2002		SRS						X		
WT-CS-11-010	2001625	01/07/2002		SRS						X		
WT-CS-11-011	2001626	01/07/2002		SRS		x	X			X	X	X
WT-CS-11-023	2001664	01/09/2002		SRS						X		
WT-CS-11-043	2001704	01/16/2002		SRS						X		
WT-CS-11-044	2001705	01/16/2002		SRS		x	x			X	X	x
WT-CS-12-003	2001763	01/25/2002		SRS						x		
WT-CS-12-004	2001764	01/25/2002	0	SRS		x	x			x	X	X
WT-CS-12-006	2001766	01/25/2002		SRS		x	X			x	X	X
WT-CS-12-008	2001768	01/25/2002		SRS		x	x			x	X	X
WT-CS-12-010	2001770	01/25/2002		SRS		x	x			x	X	X
WT-CS-12-011	2001771	01/25/2002		SRS						X		
WT-CS-12-012	2001772	01/25/2002		SRS		x	x			X	X	X
WT-CS-12-013	2001773	01/25/2002		SRS						X		
WT-CS-12-014	2001774	01/25/2002		SRS		x	X			X	X	X
WT-CS-12-015	2001775	01/25/2002		SRS						X		
WT-CS-12-016	2001776	01/25/2002		SRS		x	X			X	X	X
WT-CS-12-016	2001777	01/25/2002		SRS		x	X			X	X	X
WT-CS-12-085	2001950	02/26/2002		SRS						X		
WT-CS-12-106	2002355	03/22/2002		SRS						X		
WT-CS-12-107	2002356	03/22/2002		SRS		x	X			X	X	x
WT-CS-12-115	2002365	03/26/2002		SRS						X		
WT-CS-13-007	2001821	02/05/2002		SRS						x		
WT-CS-13-008	2001822	02/05/2002		SRS		X	X			X	X	X
WT-CS-13-009	2001823	02/05/2002		SRS						X		
WT-CS-13-010	2001824	02/05/2002		SRS		x	X			X	X	X
WT-CS-13-010	2001825	02/05/2002		SRS		x	X			X	X	X
WT-CS-13-011	2001826	02/05/2002		SRS						X		
WT-CS-13-012	2001827	02/05/2002		SRS		x	X			X	X	X

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received, Capitalized - at least one analyte in class detected

Printed on 09/26/2002

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-014	WT-CS-02-014	RPD (%)		WT-CS-02-022	WT-CS-02-022	RPD (%)
	Sample ID	2001199	2001200			2001291	2001292	
	Sample Date	10/26/2001	10/26/2001			11/09/2001	11/09/2001	
	Sample Time	12:30	12:30			15:15	15:20	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E110C69-14	E110C69-15			E111435-16	E111435-17	
Constituent	Units							
Date PCBs Analyzed	-	10/28/2001	10/29/2001			11/20/2001	11/16/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<17 U	<16 U			<45 U	<45 U	
PCB-1221 (Arochlor 1221)	ug/kg	<17 U	<16 U			<45 U	<45 U	
PCB-1232 (Arochlor 1232)	ug/kg	<17 U	<16 U			<45 U	<45 U	
PCB-1242 (Arochlor 1242)	ug/kg	<17 U	<16 U			<45 U	<45 U	
PCB-1248 (Arochlor 1248)	ug/kg	<17 U	<16 U			<45 U	<45 U	
PCB-1254 (Arochlor 1254)	ug/kg	65 J	22 J	98.85		1600 J	470 J	109
PCB-1260 (Arochlor 1260)	ug/kg	<17 U	<16 U			<45 U	<45 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-025	WT-CS-02-025	RPD (%)		WT-CS-02-031	WT-CS-02-031	RPD (%)
	Sample ID	2001295	2001296			2001306	2001307	
	Sample Date	11/09/2001	11/09/2001			11/13/2001	11/13/2001	
	Sample Time	15:30	15:40			18:45	18:50	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111435-20A	E111435-21A			E111539-3	E111539-4	
Constituent	Units							
Date PCBs Analyzed	-	11/17/2001	11/17/2001			11/14/2001	11/14/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<2000 U	<1000 U			<490 U	<240 U	
PCB-1221 (Arochlor 1221)	ug/kg	<2000 U	<1000 U			<490 U	<240 U	
PCB-1232 (Arochlor 1232)	ug/kg	<2000 U	<1000 U			<490 U	<240 U	
PCB-1242 (Arochlor 1242)	ug/kg	<2000 U	<1000 U			<490 U	<240 U	
PCB-1248 (Arochlor 1248)	ug/kg	<2000 U	<1000 U			<490 U	<240 U	
PCB-1254 (Arochlor 1254)	ug/kg	36000 J	9300 J	118		2400	1900	20
PCB-1260 (Arochlor 1260)	ug/kg	<2000 U	<1000 U			<490 U	<240 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-037	WT-CS-02-037	RPD (%)		WT-CS-02-042	WT-CS-02-042	RPD (%)
	Sample ID	2001371	2001372			2001377	2001378	
	Sample Date	11/28/2001	11/28/2001			11/28/2001	11/28/2001	
	Sample Time	12:05	12:10			12:28	12:30	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111B35-5	E111B35-6			E111B35-11A	E111B35-12A	
Constituent	Units							
Date PCBs Analyzed	-	11/28/2001	11/28/2001			11/29/2001	11/29/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<48 U	<49 U			<44 U	<44 U	
PCB-1221 (Arochlor 1221)	ug/kg	<48 U	<49 U			<44 U	<44 U	
PCB-1232 (Arochlor 1232)	ug/kg	<48 U	<49 U			<44 U	<44 U	
PCB-1242 (Arochlor 1242)	ug/kg	<48 U	<49 U			<44 U	<44 U	
PCB-1248 (Arochlor 1248)	ug/kg	<48 U	<49 U			<44 U	<44 U	
PCB-1254 (Arochlor 1254)	ug/kg	<48 U	<49 U			<44 U	<44 U	
PCB-1260 (Arochlor 1260)	ug/kg	<48 U	<49 U			<44 U	<44 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-051	WT-CS-02-051	RPD (%)		WT-CS-02-054	WT-CS-02-054	RPD (%)
	Sample ID	2001388	2001389			2001392	2001393	
	Sample Date	11/29/2001	11/29/2001			11/29/2001	11/29/2001	
	Sample Time	09:47	09:52			10:05	10:10	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111C70-2	E111C70-3			E111C63-3A	E111C63-4A	
Constituent	Units							
Date PCBs Analyzed	-	12/03/2001	11/30/2001			12/03/2001	11/30/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<420 U	<420 U			<42 U	<42 U	
PCB-1221 (Arochlor 1221)	ug/kg	<420 U	<420 U			<42 U	<42 U	
PCB-1232 (Arochlor 1232)	ug/kg	<420 U	<420 U			<42 U	<42 U	
PCB-1242 (Arochlor 1242)	ug/kg	<420 U	<420 U			380 J	<42 U	
PCB-1248 (Arochlor 1248)	ug/kg	<420 U	<420 U			<42 U	<42 U	
PCB-1254 (Arochlor 1254)	ug/kg	8100	5000	50		<42 U	<42 UJ	
PCB-1260 (Arochlor 1260)	ug/kg	<420 U	<420 U			<42 U	<42 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-031	WT-CS-03-031	RPD (%)		WT-CS-03-034	WT-CS-03-034	RPD (%)
	Sample ID	2001341	2001342			2001345	2001356	
	Sample Date	11/27/2001	11/27/2001			11/27/2001	11/27/2001	
	Sample Time	15:50	15:50			16:05	16:10	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111A87-5	E111A87-6			E111A87-9A	E111A87-10A	
Constituent	Units							
Date PCBs Analyzed	-	11/28/2001	11/28/2001			11/28/2001	11/28/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<47 U	<46 U			<46 U	<47 U	
PCB-1221 (Arochlor 1221)	ug/kg	<47 U	<46 U			<46 U	<47 U	
PCB-1232 (Arochlor 1232)	ug/kg	<47 U	<46 U			<46 U	<47 U	
PCB-1242 (Arochlor 1242)	ug/kg	<47 U	<46 U			<46 U	<47 U	
PCB-1248 (Arochlor 1248)	ug/kg	<47 U	<46 U			<46 U	<47 U	
PCB-1254 (Arochlor 1254)	ug/kg	160	180	10		<46 U	<47 U	
PCB-1260 (Arochlor 1260)	ug/kg	<47 U	<46 U			<46 U	<47 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-010	WT-CS-04-010	RPD (%)		WT-CS-04-015	WT-CS-04-015	RPD (%)
	Sample ID	2001216	2001217			2001222	2001223	
	Sample Date	10/30/2001	10/30/2001			11/05/2001	11/05/2001	
	Sample Time	15:55	16:00			16:20	16:25	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E110D62-10	E110D62-11			E111158-2	E111158-3	
Constituent	Units							
Date PCBs Analyzed	-	10/31/2001	10/31/2001			11/06/2001	11/06/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<280 U	<280 U			<43 U	<42 U	
PCB-1221 (Arochlor 1221)	ug/kg	<280 U	<280 U			<43 U	<42 U	
PCB-1232 (Arochlor 1232)	ug/kg	<280 U	<280 U			<43 U	<42 U	
PCB-1242 (Arochlor 1242)	ug/kg	<280 U	<280 U			<43 U	<42 U	
PCB-1248 (Arochlor 1248)	ug/kg	<280 U	<280 U			<43 U	<42 U	
PCB-1254 (Arochlor 1254)	ug/kg	4000	5200	20		97	76	24
PCB-1260 (Arochlor 1260)	ug/kg	<280 U	<280 U			<43 U	<42 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-034	WT-CS-04-034	RPD (%)		WT-CS-04-035	WT-CS-04-035	RPD (%)
	Sample ID	2001242	2001244			2001243	2001245	
	Sample Date	11/06/2001	11/06/2001			11/06/2001	11/06/2001	
	Sample Time	12:15	12:20			12:15	12:20	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111220-9	E111220-11			E111220-10A	E111220-12A	
Constituent	Units							
Date PCBs Analyzed	-	11/07/2001	11/07/2001			11/07/2001	11/07/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<230 U	<240 U			<42 U	<46 U	
PCB-1221 (Arochlor 1221)	ug/kg	<230 U	<240 U			<42 U	<46 U	
PCB-1232 (Arochlor 1232)	ug/kg	<230 U	<240 U			<42 U	<46 U	
PCB-1242 (Arochlor 1242)	ug/kg	<230 U	<240 U			<42 U	<46 U	
PCB-1248 (Arochlor 1248)	ug/kg	<230 U	<240 U			<42 U	<46 U	
PCB-1254 (Arochlor 1254)	ug/kg	2200 J	3700 J	50.8475		<42 U	<46 UJ	
PCB-1260 (Arochlor 1260)	ug/kg	<230 U	<240 U			<42 U	<46 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-061	WT-CS-04-061	RPD (%)		WT-CS-04-069	WT-CS-04-069	RPD (%)
	Sample ID	2001312	2001314			2001414	2001415	
	Sample Date	11/14/2001	11/14/2001			12/03/2001	12/03/2001	
	Sample Time	15:25	15:30			11:35	11:40	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111656-3	E111656-5			E112023-6A	E112023-7A	
Constituent	Units							
Date PCBs Analyzed	-	11/16/2001	11/16/2001			12/04/2001	12/04/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<42 U	<42 U			<41 U	<41 U	
PCB-1221 (Arochlor 1221)	ug/kg	<42 U	<42 U			<41 U	<41 U	
PCB-1232 (Arochlor 1232)	ug/kg	<42 U	<42 U			<41 U	<41 U	
PCB-1242 (Arochlor 1242)	ug/kg	<42 U	<42 U			<41 U	<41 U	
PCB-1248 (Arochlor 1248)	ug/kg	<42 U	<42 U			<41 U	<41 U	
PCB-1254 (Arochlor 1254)	ug/kg	270	210	20		<41 U	<41 U	
PCB-1260 (Arochlor 1260)	ug/kg	<42 U	<42 U			<41 U	<41 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-072	WT-CS-04-072	RPD (%)		WT-CS-04-083	WT-CS-04-083	RPD (%)
	Sample ID	2001418	2001419			2001444	2001445	
	Sample Date	12/03/2001	12/03/2001			12/05/2001	12/05/2001	
	Sample Time	11:52	11:55			09:56	09:59	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112023-10	E112023-11			E112129-4A	E112129-5A	
Constituent	Units							
Date PCBs Analyzed	-	12/04/2001	12/03/2001			12/05/2001	12/05/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<42 U	<42 U			<42 U	<42 U	
PCB-1221 (Arochlor 1221)	ug/kg	<42 U	<42 U			<42 U	<42 U	
PCB-1232 (Arochlor 1232)	ug/kg	<42 U	<42 U			<42 U	<42 U	
PCB-1242 (Arochlor 1242)	ug/kg	<42 U	<42 U			<42 U	<42 U	
PCB-1248 (Arochlor 1248)	ug/kg	<42 U	<42 U			<42 U	<42 U	
PCB-1254 (Arochlor 1254)	ug/kg	160 J	100 J	46.154		110 J	220 J	66.667
PCB-1260 (Arochlor 1260)	ug/kg	<42 U	<42 U			<42 U	<42 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-086	WT-CS-04-086	RPD (%)		WT-CS-04-123	WT-CS-04-123	RPD (%)
	Sample ID	2001448	2001449			2002397	2002398	
	Sample Date	12/05/2001	12/05/2001			04/22/2002	04/22/2002	
	Sample Time	11:53	11:56			12:30	12:35	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112129-8	E112129-9			E204861-1	E204861-2	
Constituent	Units							
Date PCBs Analyzed	-	12/05/2001	12/05/2001			04/22/2002	04/22/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<42 U	<42 U			<43 U	<43 U	
PCB-1221 (Arochlor 1221)	ug/kg	<42 U	<42 U			<43 U	<43 U	
PCB-1232 (Arochlor 1232)	ug/kg	<42 U	<42 U			<43 U	<43 U	
PCB-1242 (Arochlor 1242)	ug/kg	<42 U	<42 U			<43 U	<43 U	
PCB-1248 (Arochlor 1248)	ug/kg	<42 U	<42 U			<43 U	<43 U	
PCB-1254 (Arochlor 1254)	ug/kg	97	90	10		<43 U	<43 U	
PCB-1260 (Arochlor 1260)	ug/kg	<42 U	<42 U			<43 U	<43 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-06-006	WT-CS-06-006	RPD (%)		WT-CS-06-006	WT-CS-06-006	RPD (%)
	Sample ID	2001512	2001513			2001539	2001540	
	Sample Date	12/17/2001	12/17/2001			12/21/2001	12/21/2001	
	Sample Time	11:30	11:33			11:15	11:15	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112639-2	E112639-3			E112877-9	E112877-10	
Constituent	Units							
Date PCBs Analyzed	-	12/17/2001	12/18/2001			12/24/2001	12/24/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<45 U	<980 U			<48 U	<48 U	
PCB-1221 (Arochlor 1221)	ug/kg	<45 U	<980 U			<48 U	<48 U	
PCB-1232 (Arochlor 1232)	ug/kg	<45 U	<980 U			<48 U	<48 U	
PCB-1242 (Arochlor 1242)	ug/kg	<45 U	<980 U			<48 U	<48 U	
PCB-1248 (Arochlor 1248)	ug/kg	<45 U	<980 U			<48 U	<48 U	
PCB-1254 (Arochlor 1254)	ug/kg	<45 UJ	14000 J			<48 U	<48 U	
PCB-1260 (Arochlor 1260)	ug/kg	<45 UJ	10000 J			<48 U	<48 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-06-015	WT-CS-06-015	RPD (%)		WT-CS-07-012	WT-CS-07-012	RPD (%)
	Sample ID	2001522	2001523			2002435	2002436	
	Sample Date	12/17/2001	12/17/2001			05/28/2002	05/28/2002	
	Sample Time	12:25	12:27			13:10	13:12	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112639-12A	E112639-13A			E205B21-1	E205B21-2	
Constituent	Units							
Date PCBs Analyzed	-	12/18/2001	12/17/2001			05/29/2002	05/29/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<45 U	<44 U			<49 U	<49 U	
PCB-1221 (Arochlor 1221)	ug/kg	<45 U	<44 U			<49 U	<49 U	
PCB-1232 (Arochlor 1232)	ug/kg	<45 U	<44 U			<49 U	<49 U	
PCB-1242 (Arochlor 1242)	ug/kg	<45 U	<44 U			<49 U	<49 U	
PCB-1248 (Arochlor 1248)	ug/kg	<45 U	<44 U			<49 U	<49 U	
PCB-1254 (Arochlor 1254)	ug/kg	<45 U	<44 U			<49 U	<49 U	
PCB-1260 (Arochlor 1260)	ug/kg	<45 U	<44 U			<49 U	<49 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-017	WT-CS-07-017	RPD (%)		WT-CS-08-001	WT-CS-08-001	RPD (%)
	Sample ID	2002443	2002444			2001541	2001542	
	Sample Date	05/29/2002	05/29/2002			12/21/2001	12/21/2001	
	Sample Time	11:46	11:48			12:00	12:02	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E205B64-5A	E205B64-6A			E112877-11	E112877-12	
Constituent	Units							
Date PCBs Analyzed	-	05/30/2002	05/30/2002			12/24/2001	12/24/2001	
PCB-1016 (Arochlor 1016)	ug/kg	<840 U	<4200 U			<46 U	<47 U	
PCB-1221 (Arochlor 1221)	ug/kg	<840 U	<4200 U			<46 U	<47 U	
PCB-1232 (Arochlor 1232)	ug/kg	<840 U	<4200 U			<46 U	<47 U	
PCB-1242 (Arochlor 1242)	ug/kg	<840 U	<4200 U			<46 U	<47 U	
PCB-1248 (Arochlor 1248)	ug/kg	31000 J	53000 J	52.38095		<46 U	<47 U	
PCB-1254 (Arochlor 1254)	ug/kg	30000 J	54000 J	57.14286		<46 U	<47 U	
PCB-1260 (Arochlor 1260)	ug/kg	4300 J	7500 J	54.2373		<46 U	<47 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-009	WT-CS-08-009	RPD (%)		WT-CS-08-022	WT-CS-08-022	RPD (%)
	Sample ID	2001605	2001606			2001640	2001641	
	Sample Date	01/04/2002	01/04/2002			01/09/2002	01/09/2002	
	Sample Time	11:41	11:45			09:00	09:04	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201124-5A	E201124-6A			E201296-3	E201296-4	
Constituent	Units							
Date PCBs Analyzed	-	01/05/2002	01/05/2002			01/09/2002	01/09/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<41 U	<41 U			<45 U	<44 U	
PCB-1221 (Arochlor 1221)	ug/kg	<41 U	<41 U			<45 U	<44 U	
PCB-1232 (Arochlor 1232)	ug/kg	<41 U	<41 U			<45 U	<44 U	
PCB-1242 (Arochlor 1242)	ug/kg	<41 U	<41 U			<45 U	<44 U	
PCB-1248 (Arochlor 1248)	ug/kg	<41 U	<41 U			<45 U	<44 U	
PCB-1254 (Arochlor 1254)	ug/kg	<41 UJ	78 J			<45 U	<44 U	
PCB-1260 (Arochlor 1260)	ug/kg	<41 U	<41 U			<45 U	<44 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-025	WT-CS-08-025	RPD (%)		WT-CS-08-037	WT-CS-08-037	RPD (%)
	Sample ID	2001644	2001645			2001729	2001730	
	Sample Date	01/09/2002	01/09/2002			01/18/2002	01/18/2002	
	Sample Time	09:20	09:23			12:36	12:41	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201296-7A	E201296-8A			E201691-11	E201691-12	
Constituent	Units							
Date PCBs Analyzed	-	01/09/2002	01/09/2002			01/18/2002	01/18/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<42 U	<42 U			<48 U	<48 U	
PCB-1221 (Arochlor 1221)	ug/kg	<42 U	<42 U			<48 U	<48 U	
PCB-1232 (Arochlor 1232)	ug/kg	<42 U	<42 U			<48 U	<48 U	
PCB-1242 (Arochlor 1242)	ug/kg	<42 U	<42 U			<48 U	<48 U	
PCB-1248 (Arochlor 1248)	ug/kg	<42 U	<42 U			<48 U	<48 U	
PCB-1254 (Arochlor 1254)	ug/kg	1100	1100	0.00		<48 U	<48 U	
PCB-1260 (Arochlor 1260)	ug/kg	350	350	0.00		<48 U	<48 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-09-019	WT-CS-09-019	RPD (%)		WT-CS-09-091	WT-CS-09-091	RPD (%)
	Sample ID	2001566	2001567			2002478	2002479	
	Sample Date	01/02/2002	01/02/2002			05/30/2002	05/30/2002	
	Sample Time	12:25	12:28			16:51	16:53	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201032-4	E201032-5			E205C73-16A	E205C73-17A	
Constituent	Units							
Date PCBs Analyzed	-	01/02/2002	01/02/2002			06/04/2002	06/03/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<45 U	<45 U			<43 U	<43 U	
PCB-1221 (Arochlor 1221)	ug/kg	<45 U	<45 U			<43 U	<43 U	
PCB-1232 (Arochlor 1232)	ug/kg	<45 U	<45 U			<43 U	<43 U	
PCB-1242 (Arochlor 1242)	ug/kg	<45 U	<45 U			<43 U	<43 U	
PCB-1248 (Arochlor 1248)	ug/kg	<45 U	<45 U			<43 U	<43 U	
PCB-1254 (Arochlor 1254)	ug/kg	<45 U	<45 U			1300 J	250 J	135.484
PCB-1260 (Arochlor 1260)	ug/kg	<45 U	<45 U			340 J	<43 UJ	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-10-001	WT-CS-10-001	RPD (%)		WT-CS-12-016	WT-CS-12-016	RPD (%)
	Sample ID	2001787	2001788			2001776	2001777	
	Sample Date	01/29/2002	01/29/2002			01/25/2002	01/25/2002	
	Sample Time	11:55	12:00			12:15	12:15	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201A46-1	E201A46-2			E201956-16A	E201956-17A	
Constituent	Units							
Date PCBs Analyzed	-	01/30/2002	01/30/2002			01/25/2002	01/28/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<49 U	<49 U			<49 U	<50 U	
PCB-1221 (Arochlor 1221)	ug/kg	<49 U	<49 U			<49 U	<50 U	
PCB-1232 (Arochlor 1232)	ug/kg	<49 U	<49 U			<49 U	<50 U	
PCB-1242 (Arochlor 1242)	ug/kg	<49 U	<49 U			<49 U	<50 U	
PCB-1248 (Arochlor 1248)	ug/kg	<49 U	<49 U			<49 U	<50 U	
PCB-1254 (Arochlor 1254)	ug/kg	<49 U	<49 U			460	740	47
PCB-1260 (Arochlor 1260)	ug/kg	<49 U	<49 U			320	280	10

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-032	WT-CS-12-032	RPD (%)		WT-CS-12-047	WT-CS-12-047	RPD (%)
	Sample ID	2001858	2001859			2001883	2001884	
	Sample Date	02/11/2002	02/11/2002			02/14/2002	02/14/2002	
	Sample Time	12:00	12:05			12:00	12:02	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E202350-14A	E202350-15A			E202511-9	E202511-11	
Constituent	Units							
Date PCBs Analyzed	-	02/12/2002	02/12/2002			02/14/2002	02/15/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<45 U	<43 U			<48 U	<48 U	
PCB-1221 (Arochlor 1221)	ug/kg	<45 U	<43 U			<48 U	<48 U	
PCB-1232 (Arochlor 1232)	ug/kg	<45 U	<43 U			<48 U	<48 U	
PCB-1242 (Arochlor 1242)	ug/kg	<45 U	<43 U			<48 U	<48 U	
PCB-1248 (Arochlor 1248)	ug/kg	<45 U	<43 U			<48 U	<48 U	
PCB-1254 (Arochlor 1254)	ug/kg	<45 U	<43 U			<48 U	<48 U	
PCB-1260 (Arochlor 1260)	ug/kg	<45 U	<43 U			<48 U	<48 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-077	WT-CS-12-077	RPD (%)		WT-CS-13-010	WT-CS-13-010	RPD (%)
	Sample ID	2001930	2001931			2001824	2001825	
	Sample Date	02/20/2002	02/20/2002			02/05/2002	02/05/2002	
	Sample Time	12:30	12:33			11:59	12:02	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E202706-1	E202706-2			E202132-10A	E202132-11A	
Constituent	Units							
Date PCBs Analyzed	-	02/20/2002	02/20/2002			02/06/2002	02/06/2002	
PCB-1016 (Arochlor 1016)	ug/kg	<48 U	<50 U			<67 U	<64 U	
PCB-1221 (Arochlor 1221)	ug/kg	<48 U	<50 U			<67 U	<64 U	
PCB-1232 (Arochlor 1232)	ug/kg	<48 U	<50 U			<67 U	<64 U	
PCB-1242 (Arochlor 1242)	ug/kg	<48 U	<50 U			<67 U	<64 U	
PCB-1248 (Arochlor 1248)	ug/kg	<48 U	<50 U			<67 U	<64 U	
PCB-1254 (Arochlor 1254)	ug/kg	<48 U	<50 U			270 J	500 J	59.740
PCB-1260 (Arochlor 1260)	ug/kg	<48 U	<50 U			<67 U	<64 U	

Table 4-3
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-13-030	WT-CS-13-030	RPD (%)				
	Sample ID	2001998	2001999					
	Sample Date	03/20/2002	03/20/2002					
	Sample Time	10:08	10:08					
	Laboratory	PREM	PREM					
	Lab. Number	E203808-2A	E203808-3A					
Constituent	Units							
Date PCBs Analyzed	-	03/20/2002	03/20/2002					
PCB-1016 (Arochlor 1016)	ug/kg	<50 U	<50 U					
PCB-1221 (Arochlor 1221)	ug/kg	<50 U	<50 U					
PCB-1232 (Arochlor 1232)	ug/kg	<50 U	<50 U					
PCB-1242 (Arochlor 1242)	ug/kg	<50 U	<50 U					
PCB-1248 (Arochlor 1248)	ug/kg	<50 U	<50 U					
PCB-1254 (Arochlor 1254)	ug/kg	780 J	1500 J	63.2				
PCB-1260 (Arochlor 1260)	ug/kg	<50 U	<50 U					

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-025	WT-CS-02-025	RPD (%)	WT-CS-02-042	WT-CS-02-042	RPD (%)
	Sample ID	2001295	2001296		2001377	2001378	
	Sample Date	11/09/2001	11/09/2001		11/28/2001	11/28/2001	
	Sample Time	15:30	15:40		12:28	12:30	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111435-20A	E111435-21A		E111B35-11A	E111B35-12A	
Constituent	Units						
Date Metals Analyzed	-	11/13/2001	11/13/2001		12/03/2001	12/03/2001	
Date of Metals SPLP Analysis	-						
Date Organics Analyzed	-	11/13/2001	11/13/2001		11/29/2001	11/29/2001	
Date Physical Analyzed	-	11/13/2001	11/13/2001		11/29/2001	11/29/2001	
Date Semi-volatile Organics Analyzed	-	11/13/2001	11/13/2001		11/30/2001	11/30/2001	
Arsenic	mg/kg	0.68	<0.48 U		2.5	1.7	38
Arsenic (SPLP)	mg/L						
Barium	mg/kg	28	18	43	30	30	0.00
Barium (SPLP)	mg/L						
Cadmium	mg/kg	3.5	3.0	15.4	0.16	0.24	40.
Cadmium (SPLP)	mg/L						
Chromium, Total	mg/kg	73	55	28	7.6	7.8	2.6
Chromium, Total (SPLP)	mg/L						
Copper	mg/kg	31	24	20	22 J	12 J	58.82
Copper (SPLP)	mg/L						
Lead	mg/kg	44	35	30	22	25	10
Lead (SPLP)	mg/L						
Mercury	mg/kg	0.20	0.46	78.8	0.045	0.048	6.5
Mercury (SPLP)	mg/L						
Nickel	mg/kg	88	68	25.6	8.0	8.0	0.00
Nickel (SPLP)	mg/L						
Selenium	mg/kg	<0.46 U	<0.48 U		<0.50 U	<0.50 U	
Selenium (SPLP)	mg/L						
Silver	mg/kg	2.6	2.7	3.8	<0.10 U	<0.099 U	
Silver (SPLP)	mg/L						
Zinc	mg/kg	58	59	2	70 J	62 J	12.12
Zinc (SPLP)	mg/L						
Hexachlorobenzene	ug/kg	<170 U	<180 U		<190 U	<370 U	
Hexachlorocyclopentadiene	ug/kg	<170 U	<180 U		<190 U	<370 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-025	WT-CS-02-025	RPD (%)	WT-CS-02-042	WT-CS-02-042	RPD (%)
	Sample ID	2001295	2001296		2001377	2001378	
	Sample Date	11/09/2001	11/09/2001		11/28/2001	11/28/2001	
	Sample Time	15:30	15:40		12:28	12:30	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111435-20A	E111435-21A		E111B35-11A	E111B35-12A	
Constituent	Units						
Cyanide (Total)	mg/kg	2.6	<0.53 U		<0.56 U	<0.55 U	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	920	3000	100	<110 U	<110 U	
Acenaphthylene	ug/kg	200	180	0.00	380	<370 U	
Acenaphthene	ug/kg	<170 U	300		<190 UJ	880 J	
3-Nitroaniline	ug/kg	<860 U	<880 U		<930 U	<1800 U	
2-Nitroaniline	ug/kg	<860 U	<880 U		<930 U	<1800 U	
4-Chloroaniline	ug/kg	<340 U	<350 U		<370 U	<740 U	
4-Nitroaniline	ug/kg	<340 U	<350 U		<370 U	<740 U	
Anthracene	ug/kg	200	220	0.00	370 J	1700 J	129
Benzo(a)anthracene	ug/kg	860	940	10	1100 J	2500 J	77.7778
Benzo(b)fluoranthene	ug/kg	910	900	0.00	1500 J	3100 J	69.5652
Nitrobenzene	ug/kg	<170 U	<180 U		<190 U	<370 U	
3,3'-Dichlorobenzidine	ug/kg	<170 U	<180 U		<190 U	<370 U	
Benzo(a)pyrene	ug/kg	980	1000	0.00	1300 J	2400 J	59.4595
Benzo(g,h,i)perylene	ug/kg	340	330	3	730	920	23
Benzo(k)fluoranthene	ug/kg	920	990	5	1200	1200	0.00
Carbazole	ug/kg	<170 U	<180 U		260 J	990 J	117
Chrysene	ug/kg	1000	1100	0.00	1500 J	2700 J	57.1429
Dinitro-o-Cresol	ug/kg	<170 U	<180 U		<190 U	<370 U	
4-Chloro-3-Methylphenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
m- & p- Cresol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2-Methylphenol (o-Cresol)	ug/kg	<170 U	<180 U		<190 U	<370 U	
Isophorone	ug/kg	<170 U	<180 U		<190 U	<370 U	
Dibenz(a,H)anthracene	ug/kg	180	180	0.00	280	<370 U	
Dibenzofuran	ug/kg	<340 U	<350 U		<370 U	<740 U	
n-Nitrosodiphenylamine	ug/kg	<170 U	<180 U		<190 U	<370 U	
n-Nitrosodi-n-Propylamine	ug/kg	<170 U	<180 U		<190 U	<370 U	
Hexachloroethane	ug/kg	<170 U	<180 U		<190 U	<370 U	
4-Bromophenyl Phenyl ether	ug/kg	<170 U	<180 U		<190 U	<370 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-025	WT-CS-02-025	RPD (%)	WT-CS-02-042	WT-CS-02-042	RPD (%)
	Sample ID	2001295	2001296		2001377	2001378	
	Sample Date	11/09/2001	11/09/2001		11/28/2001	11/28/2001	
	Sample Time	15:30	15:40		12:28	12:30	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111435-20A	E111435-21A		E111B35-11A	E111B35-12A	
Constituent	Units						
4-Chlorophenyl Phenyl ether	ug/kg	<170 U	<180 U		<190 U	<370 U	
bis(2-Chloroisopropyl) ether	ug/kg	<340 U	<350 U		<370 U	<740 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<170 U	<180 U		<190 U	<370 U	
Fluoranthene	ug/kg	2100	2200	5	2600 J	7000 J	91.6667
Fluorene	ug/kg	180	280	43	250 J	1000 J	120.000
Indeno(1,2,3-C,d)pyrene	ug/kg	380	370	3	640	860	29
bis(2-Chloroethoxy) Methane	ug/kg	<170 U	<180 U		<190 U	<370 U	
2-Chloronaphthalene	ug/kg	<170 U	<180 U		<190 U	<370 U	
2-Methylnaphthalene	ug/kg	<170 U	<180 U		<190 U	<370 U	
Phenanthrene	ug/kg	730	840	14	1900 J	7500 J	119
Phenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2,4,5-Trichlorophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2,4,6-Trichlorophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2,4-Dichlorophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2,4-Dinitrophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2-Chlorophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
2-Nitrophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
4-Nitrophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
Pentachlorophenol	ug/kg	<170 U	<180 U		<190 U	<370 U	
Benzyl Butyl Phthalate	ug/kg	<170 U	<180 U		<190 U	<370 U	
di-n-Butyl Phthalate	ug/kg	<170 U	<180 U		<190 U	<370 U	
Diethyl Phthalate	ug/kg	<170 U	<180 U		<190 U	<370 U	
Dimethyl Phthalate	ug/kg	<170 U	<180 U		<190 U	<370 U	
di-n-Octylphthalate	ug/kg	<170 U	<180 U		<190 U	<370 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	290	650	77	<190 U	<370 U	
Pyrene	ug/kg	1800	2000	0.00	3000 J	5800 J	63.6364
2,4-Dinitrotoluene	ug/kg	<170 U	<180 U		<190 U	<370 U	
2,6-Dinitrotoluene	ug/kg	<170 U	<180 U		<190 U	<370 U	
2,4-Dimethylphenol	ug/kg	<170 U	<180 U		<190 U	<370 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-025	WT-CS-02-025	RPD (%)	WT-CS-02-042	WT-CS-02-042	RPD (%)
	Sample ID	2001295	2001296		2001377	2001378	
	Sample Date	11/09/2001	11/09/2001		11/28/2001	11/28/2001	
	Sample Time	15:30	15:40		12:28	12:30	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111435-20A	E111435-21A		E111B35-11A	E111B35-12A	
Constituent	Units						
Acetone	ug/kg	<390 U	<340 U		<560 U	<530 U	
Benzene	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,2,4-Trichlorobenzene	ug/kg	<170 U	<180 U		<190 U	<370 U	
Chlorobenzene	ug/kg	<98 U	<86 U		<140 U	<130 U	
Ethylbenzene	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,3-Dichlorobenzene	ug/kg	<170 U	<180 U		<190 U	<370 U	
1,2-Dichlorobenzene	ug/kg	<170 U	<180 U		<190 U	<370 U	
1,4-Dichlorobenzene	ug/kg	<170 U	<180 U		<190 U	<370 U	
Hexachlorobutadiene	ug/kg	<170 U	<180 U		<190 U	<370 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<200 U	<170 U		<280 U	<260 U	
Carbon Disulfide	ug/kg	<98 U	<86 U		<140 U	<130 U	
Carbon Tetrachloride	ug/kg	<98 U	<86 U		<140 U	<130 U	
Chloroform	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,1,1-Trichloroethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,1,2,2-Tetrachloroethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,1,2-Trichloroethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,1-Dichloroethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
1,2-Dichloroethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
Chloroethane	ug/kg	<200 U	<170 U		<280 U	<260 U	
1,1-Dichloroethene	ug/kg	<98 U	<86 U		<140 U	<130 U	
Vinyl Chloride	ug/kg	<200 U	<170 U		<280 U	<260 U	
Tetrachloroethylene (PCE)	ug/kg	<98 U	<86 U		<140 U	<130 U	
Trichloroethylene (TCE)	ug/kg	<98 U	<86 U		<140 U	<130 U	
2-Hexanone	ug/kg	<200 U	<170 U		<280 U	<260 U	
Bromomethane	ug/kg	<200 U	<170 U		<280 U	<260 U	
Bromodichloromethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
Chloromethane	ug/kg	<200 U	<170 U		<280 U	<260 U	
Dibromochloromethane	ug/kg	<98 U	<86 U		<140 U	<130 U	
Methylene Chloride	ug/kg	<98 U	<86 U		<140 U	<130 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-025	WT-CS-02-025	RPD (%)		WT-CS-02-042	WT-CS-02-042	RPD (%)
	Sample ID	2001295	2001296			2001377	2001378	
	Sample Date	11/09/2001	11/09/2001			11/28/2001	11/28/2001	
	Sample Time	15:30	15:40			12:28	12:30	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111435-20A	E111435-21A			E111B35-11A	E111B35-12A	
Constituent	Units							
Bromoform	ug/kg	<98 U	<86 U			<140 U	<130 U	
Naphthalene	ug/kg	<170 U	<180 U			<190 U	440	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<200 U	<170 U			<280 U	<260 U	
DCPA (Dacthal)	ug/kg	<98 U	<86 U			<140 U	<130 U	
trans-1,3-Dichloropropene	ug/kg	<98 U	<86 U			<140 U	<130 U	
cis-1,3-Dichloropropene	ug/kg	<98 U	<86 U			<140 U	<130 U	
Styrene	ug/kg	<98 U	<86 U			<140 U	<130 U	
Toluene	ug/kg	<98 U	<86 U			<140 U	<130 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<98 U	<86 U			<140 U	<130 U	
m- & p- Xylenes	ug/kg	<98 U	<86 U			<140 U	<130 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	RPD (%)	WT-CS-03-034	WT-CS-03-034	RPD (%)
	Sample ID	2001392	2001393		2001345	2001356	
	Sample Date	11/29/2001	11/29/2001		11/27/2001	11/27/2001	
	Sample Time	10:05	10:10		16:05	16:10	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111C63-3A	E111C63-4A		E111A87-9A	E111A87-10A	
Constituent	Units						
Date Metals Analyzed	-	12/04/2001	12/04/2001		11/29/2001	11/29/2001	
Date of Metals SPLP Analysis	-						
Date Organics Analyzed	-	12/03/2001	12/03/2001		11/28/2001	11/28/2001	
Date Physical Analyzed	-	11/30/2001	11/30/2001		11/29/2001	11/29/2001	
Date Semi-volatile Organics Analyzed	-	12/03/2001	12/03/2001		11/30/2001	11/30/2001	
Arsenic	mg/kg	1.6	1.7	6.1	0.93	1.1	20.
Arsenic (SPLP)	mg/L						
Barium	mg/kg	28	26	7	46	51	10
Barium (SPLP)	mg/L						
Cadmium	mg/kg	0.21 J	0.59 J	95.0	0.44 J	2.5 J	140.
Cadmium (SPLP)	mg/L						
Chromium, Total	mg/kg	7.6 J	8.4 J	10.0	6.8	7.3	7.09
Chromium, Total (SPLP)	mg/L						
Copper	mg/kg	4.9 J	5.8 J	16.8	6.7	8.5	23.7
Copper (SPLP)	mg/L						
Lead	mg/kg	26 J	34 J	26.67	44	72	48
Lead (SPLP)	mg/L						
Mercury	mg/kg	0.074	0.064	14.5	0.17	0.18	5.7
Mercury (SPLP)	mg/L						
Nickel	mg/kg	6.6 J	7.0 J	5.88	6.8	7.0	2.9
Nickel (SPLP)	mg/L						
Selenium	mg/kg	<0.48 U	<0.48 U		<0.52 U	<0.53 U	
Selenium (SPLP)	mg/L						
Silver	mg/kg	<0.095 U	<0.095 U		<0.10 U	<0.11 U	
Silver (SPLP)	mg/L						
Zinc	mg/kg	22	25	10	50 J	38 J	27.27
Zinc (SPLP)	mg/L						
Hexachlorobenzene	ug/kg	<180 U	<180 U		<190 U	<200 U	
Hexachlorocyclopentadiene	ug/kg	<180 U	<180 U		<190 U	<200 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	RPD (%)		WT-CS-03-034	WT-CS-03-034	RPD (%)
	Sample ID	2001392	2001393			2001345	2001356	
	Sample Date	11/29/2001	11/29/2001			11/27/2001	11/27/2001	
	Sample Time	10:05	10:10			16:05	16:10	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111C63-3A	E111C63-4A			E111A87-9A	E111A87-10A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.53 U	<0.53 U			<0.58 U	<0.59 U	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	<100 UJ	<110 UJ			<120 U	<120 U	
Acenaphthylene	ug/kg	<180 U	<180 U			<190 U	<200 U	
Acenaphthene	ug/kg	<180 U	<180 U			<190 U	<200 U	
3-Nitroaniline	ug/kg	<880 U	<880 U			<970 U	<980 U	
2-Nitroaniline	ug/kg	<880 U	<880 U			<970 U	<980 U	
4-Chloroaniline	ug/kg	<350 U	<350 U			<390 U	<390 U	
4-Nitroaniline	ug/kg	<350 U	<350 U			<390 U	<390 U	
Anthracene	ug/kg	<180 U	190			<190 U	<200 U	
Benzo(a)anthracene	ug/kg	<180 UJ	380 J			<190 U	<200 U	
Benzo(b)fluoranthene	ug/kg	<180 U	230			<190 U	<200 U	
Nitrobenzene	ug/kg	<180 U	<180 U			<190 U	<200 U	
3,3'-Dichlorobenzidine	ug/kg	<180 U	<180 U			<190 U	<200 U	
Benzo(a)pyrene	ug/kg	<180 U	290			<190 U	<200 U	
Benzo(g,h,i)perylene	ug/kg	<180 U	<180 U			<190 U	<200 U	
Benzo(k)fluoranthene	ug/kg	<180 U	290			<190 U	<200 U	
Carbazole	ug/kg	<180 U	<180 U			<190 U	<200 U	
Chrysene	ug/kg	<180 U	350			<190 U	<200 U	
Dinitro-o-Cresol	ug/kg	<180 U	<180 U			<190 U	<200 U	
4-Chloro-3-Methylphenol	ug/kg	<180 U	<180 U			<190 U	<200 U	
m- & p- Cresol	ug/kg	<180 U	<180 U			<190 U	<200 U	
2-Methylphenol (o-Cresol)	ug/kg	<180 U	<180 U			<190 U	<200 U	
Isophorone	ug/kg	<180 U	<180 U			<190 U	<200 U	
Dibenz(a,H)anthracene	ug/kg	<180 U	<180 U			<190 U	<200 U	
Dibenzofuran	ug/kg	<350 U	<350 U			<390 U	<390 U	
n-Nitrosodiphenylamine	ug/kg	<180 U	<180 U			<190 U	<200 U	
n-Nitrosodi-n-Propylamine	ug/kg	<180 U	<180 U			<190 U	<200 U	
Hexachloroethane	ug/kg	<180 U	<180 U			<190 U	<200 U	
4-Bromophenyl Phenyl ether	ug/kg	<180 U	<180 U			<190 U	<200 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	RPD (%)	WT-CS-03-034	WT-CS-03-034	RPD (%)
	Sample ID	2001392	2001393		2001345	2001356	
	Sample Date	11/29/2001	11/29/2001		11/27/2001	11/27/2001	
	Sample Time	10:05	10:10		16:05	16:10	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111C63-3A	E111C63-4A		E111A87-9A	E111A87-10A	
Constituent	Units						
4-Chlorophenyl Phenyl ether	ug/kg	<180 U	<180 U		<190 U	<200 U	
bis(2-Chloroisopropyl) ether	ug/kg	<350 U	<350 U		<390 U	<390 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<180 U	<180 U		<190 U	<200 U	
Fluoranthene	ug/kg	310 J	820 J	90.3	<190 U	<200 U	
Fluorene	ug/kg	<180 U	<180 U		<190 U	<200 U	
Indeno(1,2,3-C,d)pyrene	ug/kg	<180 U	<180 U		<190 U	<200 U	
bis(2-Chloroethoxy) Methane	ug/kg	<180 U	<180 U		<190 U	<200 U	
2-Chloronaphthalene	ug/kg	<180 U	<180 U		<190 U	<200 U	
2-Methylnaphthalene	ug/kg	<180 U	<180 U		<190 U	<200 U	
Phenanthrene	ug/kg	190 J	660 J	110.59	<190 U	<200 U	
Phenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
2,4,5-Trichlorophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
2,4,6-Trichlorophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
2,4-Dichlorophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
2,4-Dinitrophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
2-Chlorophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
2-Nitrophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
4-Nitrophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
Pentachlorophenol	ug/kg	<180 U	<180 U		<190 U	<200 U	
Benzyl Butyl Phthalate	ug/kg	<180 U	<180 U		<190 U	<200 U	
di-n-Butyl Phthalate	ug/kg	<180 U	<180 U		<190 U	<200 U	
Diethyl Phthalate	ug/kg	<180 U	<180 U		<190 U	<200 U	
Dimethyl Phthalate	ug/kg	<180 U	<180 U		<190 U	<200 U	
di-n-Octylphthalate	ug/kg	<180 U	<180 U		<190 U	<200 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	<180 U	<180 U		<190 U	<200 U	
Pyrene	ug/kg	250 J	660 J	90.110	<190 U	<200 U	
2,4-Dinitrotoluene	ug/kg	<180 U	<180 U		<190 U	<200 U	
2,6-Dinitrotoluene	ug/kg	<180 U	<180 U		<190 U	<200 U	
2,4-Dimethylphenol	ug/kg	<180 U	<180 U		<190 U	<200 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	RPD (%)	WT-CS-03-034	WT-CS-03-034	RPD (%)
	Sample ID	2001392	2001393		2001345	2001356	
	Sample Date	11/29/2001	11/29/2001		11/27/2001	11/27/2001	
	Sample Time	10:05	10:10		16:05	16:10	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111C63-3A	E111C63-4A		E111A87-9A	E111A87-10A	
Constituent	Units						
Acetone	ug/kg	<470 U	<500 U		<470 U	<460 U	
Benzene	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,2,4-Trichlorobenzene	ug/kg	<180 U	<180 U		<190 U	<200 U	
Chlorobenzene	ug/kg	<120 U	<120 U		<120 U	<110 U	
Ethylbenzene	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,3-Dichlorobenzene	ug/kg	<180 U	<180 U		<190 U	<200 U	
1,2-Dichlorobenzene	ug/kg	<180 U	<180 U		<190 U	<200 U	
1,4-Dichlorobenzene	ug/kg	<180 U	<180 U		<190 U	<200 U	
Hexachlorobutadiene	ug/kg	<180 U	<180 U		<190 U	<200 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<230 U	<250 U		<240 U	<230 U	
Carbon Disulfide	ug/kg	<120 U	<120 U		<120 U	<110 U	
Carbon Tetrachloride	ug/kg	<120 U	<120 U		<120 U	<110 U	
Chloroform	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,1,1-Trichloroethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,1,2,2-Tetrachloroethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,1,2-Trichloroethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,1-Dichloroethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
1,2-Dichloroethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
Chloroethane	ug/kg	<230 U	<250 U		<240 U	<230 U	
1,1-Dichloroethene	ug/kg	<120 U	<120 U		<120 U	<110 U	
Vinyl Chloride	ug/kg	<230 U	<250 U		<240 U	<230 U	
Tetrachloroethylene (PCE)	ug/kg	<120 U	<120 U		<120 U	<110 U	
Trichloroethylene (TCE)	ug/kg	<120 U	<120 U		<120 U	<110 U	
2-Hexanone	ug/kg	<230 U	<250 U		<240 U	<230 U	
Bromomethane	ug/kg	<230 U	<250 U		<240 U	<230 U	
Bromodichloromethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
Chloromethane	ug/kg	<230 U	<250 U		<240 U	<230 U	
Dibromochloromethane	ug/kg	<120 U	<120 U		<120 U	<110 U	
Methylene Chloride	ug/kg	<120 U	<120 U		<120 U	<110 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	RPD (%)		WT-CS-03-034	WT-CS-03-034	RPD (%)
	Sample ID	2001392	2001393			2001345	2001356	
	Sample Date	11/29/2001	11/29/2001			11/27/2001	11/27/2001	
	Sample Time	10:05	10:10			16:05	16:10	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111C63-3A	E111C63-4A			E111A87-9A	E111A87-10A	
Constituent	Units							
Bromoform	ug/kg	<120 U	<120 U			<120 U	<110 U	
Naphthalene	ug/kg	<180 U	<180 U			<190 U	<200 U	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<230 U	<250 U			<240 U	<230 U	
DCPA (Dacthal)	ug/kg	<120 U	<120 U			<120 U	<110 U	
trans-1,3-Dichloropropene	ug/kg	<120 U	<120 U			<120 U	<110 U	
cis-1,3-Dichloropropene	ug/kg	<120 U	<120 U			<120 U	<110 U	
Styrene	ug/kg	<120 U	<120 U			<120 U	<110 U	
Toluene	ug/kg	<120 U	<120 U			<120 U	<110 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<120 U	<120 U			<120 U	<110 U	
m- & p- Xylenes	ug/kg	<120 U	<120 U			<120 U	<110 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-035	WT-CS-04-035	RPD (%)	WT-CS-04-069	WT-CS-04-069	RPD (%)
	Sample ID	2001243	2001245		2001414	2001415	
	Sample Date	11/06/2001	11/06/2001		12/03/2001	12/03/2001	
	Sample Time	12:15	12:20		11:35	11:40	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E111220-10A	E111220-12A		E112023-6A	E112023-7A	
Constituent	Units						
Date Metals Analyzed	-	11/09/2001	11/09/2001		12/05/2001	12/05/2001	
Date of Metals SPLP Analysis	-				12/06/2001	12/06/2001	
Date Organics Analyzed	-	11/07/2001	11/07/2001		12/04/2001	12/04/2001	
Date Physical Analyzed	-	11/07/2001	11/07/2001		12/04/2001	12/04/2001	
Date Semi-volatile Organics Analyzed	-	11/08/2001	11/08/2001		12/04/2001	12/04/2001	
Arsenic	mg/kg	<0.48 U	<0.51 U		<0.46 UJ	1.8 J	
Arsenic (SPLP)	mg/L				<0.10 U	<0.10 U	
Barium	mg/kg	13	16	20	15	14	7
Barium (SPLP)	mg/L				<0.50 U	<0.50 U	
Cadmium	mg/kg	<0.096 U	<0.10 U		<0.093 UJ	<0.093 UJ	
Cadmium (SPLP)	mg/L				<0.010 U	<0.010 U	
Chromium, Total	mg/kg	5.3	5.3	0.00	4.2	3.8	10.
Chromium, Total (SPLP)	mg/L				<0.024 U	<0.024 U	
Copper	mg/kg	4.3	4.1	4.8	4.5	4.2	6.9
Copper (SPLP)	mg/L				<0.024 U	<0.024 U	
Lead	mg/kg	3.2 J	3.3 J	3.08	2.2	2.0	9.5
Lead (SPLP)	mg/L				<0.050 U	<0.050 U	
Mercury	mg/kg	<0.021 U	<0.023 U		<0.021 U	<0.021 U	
Mercury (SPLP)	mg/L				<0.00020 U	<0.00020 U	
Nickel	mg/kg	6.1 J	13 J	72.3	8.9	9.9	10.6
Nickel (SPLP)	mg/L				<0.024 U	<0.024 U	
Selenium	mg/kg	<0.48 U	<0.51 U		<0.46 UJ	<0.47 UJ	
Selenium (SPLP)	mg/L				<0.10 U	<0.10 U	
Silver	mg/kg	<0.096 UJ	<0.10 UJ		<0.093 U	<0.093 U	
Silver (SPLP)	mg/L				<0.020 U	<0.020 U	
Zinc	mg/kg	15	13	10	15	14	7
Zinc (SPLP)	mg/L				<0.50 U	<0.50 U	
Hexachlorobenzene	ug/kg	<180 U	<190 U		<170 U	<170 U	
Hexachlorocyclopentadiene	ug/kg	<180 U	<190 U		<170 U	<170 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-035	WT-CS-04-035	RPD (%)		WT-CS-04-069	WT-CS-04-069	RPD (%)
	Sample ID	2001243	2001245			2001414	2001415	
	Sample Date	11/06/2001	11/06/2001			12/03/2001	12/03/2001	
	Sample Time	12:15	12:20			11:35	11:40	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111220-10A	E111220-12A			E112023-6A	E112023-7A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.53 UJ	<0.57 UJ			<0.52 U	<0.52 U	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	<110 U	220			<100 U	<100 U	
Acenaphthylene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Acenaphthene	ug/kg	<180 U	<190 U			<170 U	<170 U	
3-Nitroaniline	ug/kg	<890 U	<950 U			<860 U	<860 U	
2-Nitroaniline	ug/kg	<890 U	<950 U			<860 U	<860 U	
4-Chloroaniline	ug/kg	<360 U	<380 U			<340 U	<340 U	
4-Nitroaniline	ug/kg	<360 U	<380 U			<340 U	<340 U	
Anthracene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Benzo(a)anthracene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Benzo(b)fluoranthene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Nitrobenzene	ug/kg	<180 U	<190 U			<170 U	<170 U	
3,3'-Dichlorobenzidine	ug/kg	<180 U	<190 U			<170 U	<170 U	
Benzo(a)pyrene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Benzo(g,h,i)perylene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Benzo(k)fluoranthene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Carbazole	ug/kg	<180 U	<190 U			<170 U	<170 U	
Chrysene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Dinitro-o-Cresol	ug/kg	<180 U	<190 U			<170 U	<170 U	
4-Chloro-3-Methylphenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
m- & p- Cresol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2-Methylphenol (o-Cresol)	ug/kg	<180 U	<190 U			<170 U	<170 U	
Isophorone	ug/kg	<180 U	<190 U			<170 U	<170 U	
Dibenz(a,H)anthracene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Dibenzofuran	ug/kg	<360 U	<380 U			<340 U	<340 U	
n-Nitrosodiphenylamine	ug/kg	<180 U	<190 U			<170 U	<170 U	
n-Nitrosodi-n-Propylamine	ug/kg	<180 U	<190 U			<170 U	<170 U	
Hexachloroethane	ug/kg	<180 U	<190 U			<170 U	<170 U	
4-Bromophenyl Phenyl ether	ug/kg	<180 U	<190 U			<170 U	<170 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-035	WT-CS-04-035	RPD (%)		WT-CS-04-069	WT-CS-04-069	RPD (%)
	Sample ID	2001243	2001245			2001414	2001415	
	Sample Date	11/06/2001	11/06/2001			12/03/2001	12/03/2001	
	Sample Time	12:15	12:20			11:35	11:40	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111220-10A	E111220-12A			E112023-6A	E112023-7A	
Constituent	Units							
4-Chlorophenyl Phenyl ether	ug/kg	<180 U	<190 U			<170 U	<170 U	
bis(2-Chloroisopropyl) ether	ug/kg	<360 UJ	<380 UJ			<340 U	<340 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<180 U	<190 U			<170 U	<170 U	
Fluoranthene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Fluorene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Indeno(1,2,3-C,d)pyrene	ug/kg	<180 U	<190 U			<170 U	<170 U	
bis(2-Chloroethoxy) Methane	ug/kg	<180 U	<190 U			<170 U	<170 U	
2-Chloronaphthalene	ug/kg	<180 U	<190 U			<170 U	<170 U	
2-Methylnaphthalene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Phenanthrene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Phenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,4,5-Trichlorophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,4,6-Trichlorophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,4-Dichlorophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,4-Dinitrophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2-Chlorophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
2-Nitrophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
4-Nitrophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
Pentachlorophenol	ug/kg	<180 U	<190 U			<170 U	<170 U	
Benzyl Butyl Phthalate	ug/kg	<180 U	<190 U			<170 U	<170 U	
di-n-Butyl Phthalate	ug/kg	<180 U	<190 U			<170 U	<170 U	
Diethyl Phthalate	ug/kg	<180 U	<190 U			<170 U	<170 U	
Dimethyl Phthalate	ug/kg	<180 U	<190 U			<170 U	<170 U	
di-n-Octylphthalate	ug/kg	<180 U	<190 U			<170 U	<170 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	<180 U	<190 U			<170 U	<170 U	
Pyrene	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,4-Dinitrotoluene	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,6-Dinitrotoluene	ug/kg	<180 U	<190 U			<170 U	<170 U	
2,4-Dimethylphenol	ug/kg	<180 U	<190 U			<170 U	<170 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-035	WT-CS-04-035	RPD (%)		WT-CS-04-069	WT-CS-04-069	RPD (%)
	Sample ID	2001243	2001245			2001414	2001415	
	Sample Date	11/06/2001	11/06/2001			12/03/2001	12/03/2001	
	Sample Time	12:15	12:20			11:35	11:40	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111220-10A	E111220-12A			E112023-6A	E112023-7A	
Constituent	Units							
Acetone	ug/kg	<550 U	<490 U			<310 U	<320 U	
Benzene	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,2,4-Trichlorobenzene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Chlorobenzene	ug/kg	<140 U	<120 U			<79 U	<81 U	
Ethylbenzene	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,3-Dichlorobenzene	ug/kg	<180 U	<190 U			<170 U	<170 U	
1,2-Dichlorobenzene	ug/kg	<180 U	<190 U			<170 U	<170 U	
1,4-Dichlorobenzene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Hexachlorobutadiene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<280 U	<250 U			<160 U	<160 U	
Carbon Disulfide	ug/kg	<140 U	<120 U			<79 U	<81 U	
Carbon Tetrachloride	ug/kg	<140 U	<120 U			<79 U	<81 U	
Chloroform	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,1,1-Trichloroethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,1,2,2-Tetrachloroethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,1,2-Trichloroethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,1-Dichloroethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
1,2-Dichloroethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
Chloroethane	ug/kg	<280 U	<250 U			<160 UJ	<160 UJ	
1,1-Dichloroethene	ug/kg	<140 U	<120 U			<79 U	<81 U	
Vinyl Chloride	ug/kg	<280 U	<250 U			<160 U	<160 U	
Tetrachloroethylene (PCE)	ug/kg	<140 U	<120 U			<79 U	<81 U	
Trichloroethylene (TCE)	ug/kg	<140 U	<120 U			<79 U	<81 U	
2-Hexanone	ug/kg	<280 U	<250 U			<160 U	<160 U	
Bromomethane	ug/kg	<280 U	<250 U			<160 U	<160 U	
Bromodichloromethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
Chloromethane	ug/kg	<280 U	<250 U			<160 U	<160 U	
Dibromochloromethane	ug/kg	<140 U	<120 U			<79 U	<81 U	
Methylene Chloride	ug/kg	<140 U	<120 U			<79 U	<81 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-035	WT-CS-04-035	RPD (%)		WT-CS-04-069	WT-CS-04-069	RPD (%)
	Sample ID	2001243	2001245			2001414	2001415	
	Sample Date	11/06/2001	11/06/2001			12/03/2001	12/03/2001	
	Sample Time	12:15	12:20			11:35	11:40	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E111220-10A	E111220-12A			E112023-6A	E112023-7A	
Constituent	Units							
Bromoform	ug/kg	<140 U	<120 U			<79 U	<81 U	
Naphthalene	ug/kg	<180 U	<190 U			<170 U	<170 U	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<280 U	<250 U			<160 U	<160 U	
DCPA (Dacthal)	ug/kg	<140 U	<120 U			<79 U	<81 U	
trans-1,3-Dichloropropene	ug/kg	<140 U	<120 U			<79 U	<81 U	
cis-1,3-Dichloropropene	ug/kg	<140 U	<120 U			<79 U	<81 U	
Styrene	ug/kg	<140 U	<120 U			<79 U	<81 U	
Toluene	ug/kg	<140 U	<120 U			<79 U	<81 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<140 U	<120 U			<79 U	<81 U	
m- & p- Xylenes	ug/kg	<140 U	<120 U			<79 U	<81 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-083	WT-CS-04-083	RPD (%)		WT-CS-06-015	WT-CS-06-015	RPD (%)
	Sample ID	2001444	2001445			2001522	2001523	
	Sample Date	12/05/2001	12/05/2001			12/17/2001	12/17/2001	
	Sample Time	09:56	09:59			12:25	12:27	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112129-4A	E112129-5A			E112639-12A	E112639-13A	
Constituent	Units							
Date Metals Analyzed	-	12/10/2001	12/10/2001			12/19/2001	12/19/2001	
Date of Metals SPLP Analysis	-	12/06/2001	12/06/2001			12/20/2001	12/20/2001	
Date Organics Analyzed	-	12/06/2001	12/06/2001			12/18/2001	12/18/2001	
Date Physical Analyzed	-	12/06/2001	12/06/2001			12/18/2001	12/18/2001	
Date Semi-volatile Organics Analyzed	-	12/07/2001	12/07/2001			12/19/2001	12/19/2001	
Arsenic	mg/kg	1.6	1.5	6.5		1.1	0.79	32
Arsenic (SPLP)	mg/L	<0.10 U	<0.10 U			<0.30 U	<0.30 U	
Barium	mg/kg	27	37	31		29	25	10
Barium (SPLP)	mg/L	<0.50 U	<0.50 U			<1.6 U	<1.6 U	
Cadmium	mg/kg	<0.094 UJ	1.8 J			2.5	0.97	85.7
Cadmium (SPLP)	mg/L	<0.010 U	<0.010 U			0.032	<0.010 U	
Chromium, Total	mg/kg	7.2 J	43 J	143		9.2	7.7	17.8
Chromium, Total (SPLP)	mg/L	<0.024 U	<0.024 U			<0.024 U	<0.024 U	
Copper	mg/kg	5.3 J	15 J	95.6		12	6.4	60
Copper (SPLP)	mg/L	<0.024 U	<0.024 U			<0.024 U	<0.024 U	
Lead	mg/kg	7.3 J	18 J	84.6		33	13	87
Lead (SPLP)	mg/L	<0.050 U	<0.050 U			<0.10 U	<0.10 U	
Mercury	mg/kg	0.034	0.026	27		0.049	0.098	66.7
Mercury (SPLP)	mg/L	<0.00020 U	<0.00020 U			<0.00020 U	<0.00020 U	
Nickel	mg/kg	8.0 J	40 J	133.3		29	28	4
Nickel (SPLP)	mg/L	<0.024 U	0.038			0.27	0.35	26
Selenium	mg/kg	<0.47 U	<0.47 U			<0.51 U	<0.50 U	
Selenium (SPLP)	mg/L	<0.10 U	<0.10 U			<0.10 U	<0.10 U	
Silver	mg/kg	<0.094 UJ	0.99 J			<0.10 U	<0.10 U	
Silver (SPLP)	mg/L	<0.020 U	<0.020 U			<0.020 U	<0.020 U	
Zinc	mg/kg	19	24	20		200	110	70
Zinc (SPLP)	mg/L	<0.50 U	<0.50 U			1.9	2.2	15
Hexachlorobenzene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Hexachlorocyclopentadiene	ug/kg	<170 U	<170 U			<190 U	<180 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-083	WT-CS-04-083	RPD (%)		WT-CS-06-015	WT-CS-06-015	RPD (%)
	Sample ID	2001444	2001445			2001522	2001523	
	Sample Date	12/05/2001	12/05/2001			12/17/2001	12/17/2001	
	Sample Time	09:56	09:59			12:25	12:27	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112129-4A	E112129-5A			E112639-12A	E112639-13A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.52 U	<0.52 U			<0.57 U	<0.56 U	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	<100 U	<100 U			<110 U	<110 U	
Acenaphthylene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Acenaphthene	ug/kg	<170 U	<170 U			<190 U	<180 U	
3-Nitroaniline	ug/kg	<870 U	<870 U			<950 U	<930 U	
2-Nitroaniline	ug/kg	<870 U	<870 U			<950 U	<930 U	
4-Chloroaniline	ug/kg	<350 U	<350 U			<380 U	<370 U	
4-Nitroaniline	ug/kg	<350 U	<350 U			<380 U	<370 U	
Anthracene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Benzo(a)anthracene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Benzo(b)fluoranthene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Nitrobenzene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
3,3'-Dichlorobenzidine	ug/kg	<170 U	<170 U			<190 U	<180 U	
Benzo(a)pyrene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Benzo(g,h,i)perylene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Benzo(k)fluoranthene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Carbazole	ug/kg	<170 U	<170 U			<190 U	<180 U	
Chrysene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Dinitro-o-Cresol	ug/kg	<170 U	<170 U			<190 U	<180 U	
4-Chloro-3-Methylphenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
m- & p- Cresol	ug/kg	<170 U	<170 U			<190 U	<180 U	
2-Methylphenol (o-Cresol)	ug/kg	<170 U	<170 U			<190 U	<180 U	
Isophorone	ug/kg	<170 U	<170 U			<190 U	<180 U	
Dibenz(a,H)anthracene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Dibenzofuran	ug/kg	<350 U	<350 U			<380 U	<370 U	
n-Nitrosodiphenylamine	ug/kg	<170 U	<170 U			<190 U	<180 U	
n-Nitrosodi-n-Propylamine	ug/kg	<170 U	<170 U			<190 U	<180 U	
Hexachloroethane	ug/kg	<170 U	<170 U			<190 U	<180 U	
4-Bromophenyl Phenyl ether	ug/kg	<170 U	<170 U			<190 U	<180 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-083	WT-CS-04-083	RPD (%)		WT-CS-06-015	WT-CS-06-015	RPD (%)
	Sample ID	2001444	2001445			2001522	2001523	
	Sample Date	12/05/2001	12/05/2001			12/17/2001	12/17/2001	
	Sample Time	09:56	09:59			12:25	12:27	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112129-4A	E112129-5A			E112639-12A	E112639-13A	
Constituent	Units							
4-Chlorophenyl Phenyl ether	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
bis(2-Chloroisopropyl) ether	ug/kg	<350 U	<350 U			<380 U	<370 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<170 U	<170 U			<190 U	<180 U	
Fluoranthene	ug/kg	<170 U	<170 U			<190 U	220	
Fluorene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Indeno(1,2,3-C,d)pyrene	ug/kg	<170 U	<170 U			<190 U	<180 U	
bis(2-Chloroethoxy) Methane	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
2-Chloronaphthalene	ug/kg	<170 U	<170 U			<190 U	<180 U	
2-Methylnaphthalene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Phenanthrene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Phenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
2,4,5-Trichlorophenol	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
2,4,6-Trichlorophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
2,4-Dichlorophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
2,4-Dinitrophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
2-Chlorophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
2-Nitrophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
4-Nitrophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
Pentachlorophenol	ug/kg	<170 U	<170 U			<190 U	<180 U	
Benzyl Butyl Phthalate	ug/kg	<170 U	<170 U			<190 U	<180 U	
di-n-Butyl Phthalate	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Diethyl Phthalate	ug/kg	<170 U	<170 U			<190 U	<180 U	
Dimethyl Phthalate	ug/kg	<170 U	<170 U			<190 U	<180 U	
di-n-Octylphthalate	ug/kg	<170 U	<170 U			<190 U	<180 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	<170 U	<170 U			<190 U	<180 U	
Pyrene	ug/kg	<170 U	<170 U			<190 U	<180 U	
2,4-Dinitrotoluene	ug/kg	<170 U	<170 U			<190 U	<180 U	
2,6-Dinitrotoluene	ug/kg	<170 U	<170 U			<190 U	<180 U	
2,4-Dimethylphenol	ug/kg	<170 U	<170 U			<190 U	<180 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-083	WT-CS-04-083	RPD (%)		WT-CS-06-015	WT-CS-06-015	RPD (%)
	Sample ID	2001444	2001445			2001522	2001523	
	Sample Date	12/05/2001	12/05/2001			12/17/2001	12/17/2001	
	Sample Time	09:56	09:59			12:25	12:27	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112129-4A	E112129-5A			E112639-12A	E112639-13A	
Constituent	Units							
Acetone	ug/kg	<410 U	<340 U			<600 U	<470 U	
Benzene	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,2,4-Trichlorobenzene	ug/kg	<170 UJ	<170 UJ			<190 U	<180 U	
Chlorobenzene	ug/kg	<100 U	<85 U			<150 U	<120 U	
Ethylbenzene	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,3-Dichlorobenzene	ug/kg	<170 U	<170 U			<190 U	<180 U	
1,2-Dichlorobenzene	ug/kg	<170 U	<170 U			<190 U	<180 U	
1,4-Dichlorobenzene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Hexachlorobutadiene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<200 U	<170 U			<300 U	<240 U	
Carbon Disulfide	ug/kg	<100 U	<85 U			<150 U	<120 U	
Carbon Tetrachloride	ug/kg	<100 U	<85 U			<150 U	<120 U	
Chloroform	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,1,1-Trichloroethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,1,2,2-Tetrachloroethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,1,2-Trichloroethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,1-Dichloroethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
1,2-Dichloroethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
Chloroethane	ug/kg	<200 U	<170 U			<300 U	<240 U	
1,1-Dichloroethene	ug/kg	<100 U	<85 U			<150 U	<120 U	
Vinyl Chloride	ug/kg	<200 U	<170 U			<300 U	<240 U	
Tetrachloroethylene (PCE)	ug/kg	<100 U	<85 U			<150 U	<120 U	
Trichloroethylene (TCE)	ug/kg	<100 U	<85 U			<150 U	<120 U	
2-Hexanone	ug/kg	<200 U	<170 U			<300 U	<240 U	
Bromomethane	ug/kg	<200 U	<170 U			<300 U	<240 U	
Bromodichloromethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
Chloromethane	ug/kg	<200 U	<170 U			<300 U	<240 U	
Dibromochloromethane	ug/kg	<100 U	<85 U			<150 U	<120 U	
Methylene Chloride	ug/kg	<100 U	<85 U			<150 U	<120 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-083	WT-CS-04-083	RPD (%)		WT-CS-06-015	WT-CS-06-015	RPD (%)
	Sample ID	2001444	2001445			2001522	2001523	
	Sample Date	12/05/2001	12/05/2001			12/17/2001	12/17/2001	
	Sample Time	09:56	09:59			12:25	12:27	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E112129-4A	E112129-5A			E112639-12A	E112639-13A	
Constituent	Units							
Bromoform	ug/kg	<100 U	<85 U			<150 U	<120 U	
Naphthalene	ug/kg	<170 U	<170 U			<190 U	<180 U	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<200 U	<170 U			<300 U	<240 U	
DCPA (Dacthal)	ug/kg	<100 U	<85 U			<150 U	<120 U	
trans-1,3-Dichloropropene	ug/kg	<100 U	<85 U			<150 U	<120 U	
cis-1,3-Dichloropropene	ug/kg	<100 U	<85 U			<150 U	<120 U	
Styrene	ug/kg	<100 U	<85 U			<150 U	<120 U	
Toluene	ug/kg	<100 U	<85 U			<150 U	<120 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<100 U	<85 U			<150 U	<120 U	
m- & p- Xylenes	ug/kg	<100 U	<85 U			<150 U	<120 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-017	WT-CS-07-017	RPD (%)	WT-CS-08-009	WT-CS-08-009	RPD (%)
	Sample ID	2002443	2002444		2001605	2001606	
	Sample Date	05/29/2002	05/29/2002		01/04/2002	01/04/2002	
	Sample Time	11:46	11:48		11:41	11:45	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E205B64-5A	E205B64-6A		E201124-5A	E201124-6A	
Constituent	Units						
Date Metals Analyzed	-	05/30/2002	05/30/2002		01/08/2002	01/08/2002	
Date of Metals SPLP Analysis	-						
Date Organics Analyzed	-	05/30/2002	05/30/2002		01/04/2002	01/04/2002	
Date Physical Analyzed	-	05/30/2002	05/30/2002		01/07/2002	01/07/2002	
Date Semi-volatile Organics Analyzed	-	06/01/2002	06/04/2002		01/08/2002	01/08/2002	
Arsenic	mg/kg	0.74	0.61	19.3	<0.47 U	<0.47 U	
Arsenic (SPLP)	mg/L						
Barium	mg/kg	18 J	17 J	5.71	16	14	10
Barium (SPLP)	mg/L						
Cadmium	mg/kg	<0.095 U	<0.095 U		<0.094 U	<0.094 U	
Cadmium (SPLP)	mg/L						
Chromium, Total	mg/kg	12	9.6	20	6.8	4.8	34.5
Chromium, Total (SPLP)	mg/L						
Copper	mg/kg	6.4 J	6.0 J	6.45	4.2	3.8	10.
Copper (SPLP)	mg/L						
Lead	mg/kg	4.6	3.2	35.9	2.3	1.5	42
Lead (SPLP)	mg/L						
Mercury	mg/kg	<0.021 U	<0.021 U		<0.021 U	<0.021 U	
Mercury (SPLP)	mg/L						
Nickel	mg/kg	48 J	48 J	0.00	8.9	7.2	21.1
Nickel (SPLP)	mg/L						
Selenium	mg/kg	<0.47 UJ	<0.48 UJ		<0.47 U	<0.47 U	
Selenium (SPLP)	mg/L						
Silver	mg/kg	<0.095 U	<0.095 U		<0.094 U	<0.094 U	
Silver (SPLP)	mg/L						
Zinc	mg/kg	50	51	0.00	9.8 J	9.4 J	4.17
Zinc (SPLP)	mg/L						
Hexachlorobenzene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	
Hexachlorocyclopentadiene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-017	WT-CS-07-017	RPD (%)		WT-CS-08-009	WT-CS-08-009	RPD (%)
	Sample ID	2002443	2002444			2001605	2001606	
	Sample Date	05/29/2002	05/29/2002			01/04/2002	01/04/2002	
	Sample Time	11:46	11:48			11:41	11:45	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E205B64-5A	E205B64-6A			E201124-5A	E201124-6A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.52 U	<0.53 U			<0.52 U	<0.52 U	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	20000	31000	40		<100 U	<100 U	
Acenaphthylene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Acenaphthene	ug/kg	5500 J	11000 J	66.66667		<170 U	<170 U	
3-Nitroaniline	ug/kg	<3500 U	<3500 U			<870 U	<870 U	
2-Nitroaniline	ug/kg	<3500 U	<3500 U			<870 U	<870 U	
4-Chloroaniline	ug/kg	<3500 U	<3500 U			<350 U	<350 U	
4-Nitroaniline	ug/kg	<3500 U	<3500 U			<350 U	<350 U	
Anthracene	ug/kg	<1800 U	2100			<170 U	<170 U	
Benzo(a)anthracene	ug/kg	2100	3300	44		<170 U	<170 U	
Benzo(b)fluoranthene	ug/kg	<1800 U	2400			<170 U	<170 U	
Nitrobenzene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
3,3'-Dichlorobenzidine	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Benzo(a)pyrene	ug/kg	<1800 U	1900			<170 U	<170 U	
Benzo(g,h,i)perylene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Benzo(k)fluoranthene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Carbazole	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Chrysene	ug/kg	2100	3100	38		<170 U	<170 U	
Dinitro-o-Cresol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
4-Chloro-3-Methylphenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
m- & p- Cresol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2-Methylphenol (o-Cresol)	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Isophorone	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Dibenz(a,H)anthracene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Dibenzofuran	ug/kg	<3500 U	5200			<350 U	<350 U	
n-Nitrosodiphenylamine	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
n-Nitrosodi-n-Propylamine	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Hexachloroethane	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
4-Bromophenyl Phenyl ether	ug/kg	<1800 U	<1800 U			<170 U	<170 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-017	WT-CS-07-017	RPD (%)		WT-CS-08-009	WT-CS-08-009	RPD (%)
	Sample ID	2002443	2002444			2001605	2001606	
	Sample Date	05/29/2002	05/29/2002			01/04/2002	01/04/2002	
	Sample Time	11:46	11:48			11:41	11:45	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E205B64-5A	E205B64-6A			E201124-5A	E201124-6A	
Constituent	Units							
4-Chlorophenyl Phenyl ether	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
bis(2-Chloroisopropyl) ether	ug/kg	<3500 U	<3500 U			<350 U	<350 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Fluoranthene	ug/kg	10000	16000	70		<170 U	<170 U	
Fluorene	ug/kg	3600 J	6500 J	57.4257		<170 U	<170 U	
Indeno(1,2,3-C,d)pyrene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
bis(2-Chloroethoxy) Methane	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2-Chloronaphthalene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2-Methylnaphthalene	ug/kg	8600 J	26000 J	101		<170 U	<170 U	
Phenanthrene	ug/kg	12000 J	20000 J	50.00000		<170 U	<170 U	
Phenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2,4,5-Trichlorophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2,4,6-Trichlorophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2,4-Dichlorophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2,4-Dinitrophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2-Chlorophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2-Nitrophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
4-Nitrophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Pentachlorophenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Benzyl Butyl Phthalate	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
di-n-Butyl Phthalate	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Diethyl Phthalate	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
Dimethyl Phthalate	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
di-n-Octylphthalate	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	3500	5100	37		<170 U	<170 U	
Pyrene	ug/kg	8600	14000	40		<170 U	<170 U	
2,4-Dinitrotoluene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2,6-Dinitrotoluene	ug/kg	<1800 U	<1800 U			<170 U	<170 U	
2,4-Dimethylphenol	ug/kg	<1800 U	<1800 U			<170 U	<170 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-017	WT-CS-07-017	RPD (%)	WT-CS-08-009	WT-CS-08-009	RPD (%)
	Sample ID	2002443	2002444		2001605	2001606	
	Sample Date	05/29/2002	05/29/2002		01/04/2002	01/04/2002	
	Sample Time	11:46	11:48		11:41	11:45	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E205B64-5A	E205B64-6A		E201124-5A	E201124-6A	
Constituent	Units						
Acetone	ug/kg	<500 U	<450 U		<510 U	<510 U	
Benzene	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,2,4-Trichlorobenzene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	
Chlorobenzene	ug/kg	<120 U	<110 U		<130 U	<130 U	
Ethylbenzene	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,3-Dichlorobenzene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	
1,2-Dichlorobenzene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	
1,4-Dichlorobenzene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	
Hexachlorobutadiene	ug/kg	<1800 U	<1800 U		<170 U	<170 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<250 U	<230 U		<250 U	<250 U	
Carbon Disulfide	ug/kg	<120 U	<110 U		<130 U	<130 U	
Carbon Tetrachloride	ug/kg	<120 U	<110 U		<130 U	<130 U	
Chloroform	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,1,1-Trichloroethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,1,2,2-Tetrachloroethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,1,2-Trichloroethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,1-Dichloroethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
1,2-Dichloroethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
Chloroethane	ug/kg	<250 U	<230 U		<250 UJ	<250 U	
1,1-Dichloroethene	ug/kg	<120 U	<110 U		<130 UJ	<130 U	
Vinyl Chloride	ug/kg	<250 U	<230 U		<250 U	<250 U	
Tetrachloroethylene (PCE)	ug/kg	<120 U	<110 U		<130 U	<130 U	
Trichloroethylene (TCE)	ug/kg	<120 U	<110 U		<130 U	<130 U	
2-Hexanone	ug/kg	<250 UJ	<230 UJ		<250 U	<250 U	
Bromomethane	ug/kg	<250 U	<230 U		<250 U	<250 U	
Bromodichloromethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
Chloromethane	ug/kg	<250 U	<230 U		<250 U	<250 U	
Dibromochloromethane	ug/kg	<120 U	<110 U		<130 U	<130 U	
Methylene Chloride	ug/kg	<120 U	<110 U		<130 UJ	<130 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-017	WT-CS-07-017	RPD (%)		WT-CS-08-009	WT-CS-08-009	RPD (%)
	Sample ID	2002443	2002444			2001605	2001606	
	Sample Date	05/29/2002	05/29/2002			01/04/2002	01/04/2002	
	Sample Time	11:46	11:48			11:41	11:45	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E205B64-5A	E205B64-6A			E201124-5A	E201124-6A	
Constituent	Units							
Bromoform	ug/kg	<120 U	<110 U			<130 U	<130 U	
Naphthalene	ug/kg	5300 J	9300 J	54.7945		<170 U	<170 U	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<250 UJ	<230 UJ			<250 U	<250 U	
DCPA (Dacthal)	ug/kg	<120 U	<110 U			<130 U	<130 U	
trans-1,3-Dichloropropene	ug/kg	<120 U	<110 U			<130 U	<130 U	
cis-1,3-Dichloropropene	ug/kg	<120 U	<110 U			<130 U	<130 U	
Styrene	ug/kg	<120 U	<110 U			<130 U	<130 U	
Toluene	ug/kg	<120 U	<110 U			<130 U	<130 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<120 U	<110 U			<130 U	<130 U	
m- & p- Xylenes	ug/kg	270	280	4		<130 U	<130 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-025	WT-CS-08-025	RPD (%)		WT-CS-09-091	WT-CS-09-091	RPD (%)
	Sample ID	2001644	2001645			2002478	2002479	
	Sample Date	01/09/2002	01/09/2002			05/30/2002	05/30/2002	
	Sample Time	09:20	09:23			16:51	16:53	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201296-7A	E201296-8A			E205C73-16A	E205C73-17A	
Constituent	Units							
Date Metals Analyzed	-	01/14/2002	01/14/2002			06/04/2002	06/04/2002	
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-	01/10/2002	01/10/2002			06/02/2002	06/02/2002	
Date Physical Analyzed	-	01/10/2002	01/10/2002			06/04/2002	06/04/2002	
Date Semi-volatile Organics Analyzed	-	01/11/2002	01/11/2002			06/05/2002	06/04/2002	
Arsenic	mg/kg	1.3	0.95	35		1.1	1.1	0.00
Arsenic (SPLP)	mg/L							
Barium	mg/kg	27	27	0.00		18	18	0.00
Barium (SPLP)	mg/L							
Cadmium	mg/kg	0.82 J	1.5 J	58.6		0.19	0.29	41.7
Cadmium (SPLP)	mg/L							
Chromium, Total	mg/kg	9.4 J	18 J	62.8		9.0	11	20
Chromium, Total (SPLP)	mg/L							
Copper	mg/kg	17	12	30		8.6	9.8	13.0
Copper (SPLP)	mg/L							
Lead	mg/kg	27	28	4		8.4	8.8	4.7
Lead (SPLP)	mg/L							
Mercury	mg/kg	0.046	0.072	44.1		0.024 J	0.032 J	28.6
Mercury (SPLP)	mg/L							
Nickel	mg/kg	35	25	33		8.9	14	40
Nickel (SPLP)	mg/L							
Selenium	mg/kg	<0.47 U	<0.48 U			<0.48 U	<0.48 U	
Selenium (SPLP)	mg/L							
Silver	mg/kg	0.20 J	0.65 J	106		<0.096 U	0.60 J	
Silver (SPLP)	mg/L							
Zinc	mg/kg	100	110	0.00		16 J	17 J	6.06
Zinc (SPLP)	mg/L							
Hexachlorobenzene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Hexachlorocyclopentadiene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-025	WT-CS-08-025	RPD (%)		WT-CS-09-091	WT-CS-09-091	RPD (%)
	Sample ID	2001644	2001645			2002478	2002479	
	Sample Date	01/09/2002	01/09/2002			05/30/2002	05/30/2002	
	Sample Time	09:20	09:23			16:51	16:53	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201296-7A	E201296-8A			E205C73-16A	E205C73-17A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.53 U	<0.53 U			<0.53 UJ	<0.54 UJ	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	470 J	1000 J	72.1		430	380	10
Acenaphthylene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Acenaphthene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
3-Nitroaniline	ug/kg	<880 U	<880 U			<350 UJ	<360 UJ	
2-Nitroaniline	ug/kg	<880 U	<880 U			<350 UJ	<360 UJ	
4-Chloroaniline	ug/kg	<350 U	<350 U			<350 UJ	<360 UJ	
4-Nitroaniline	ug/kg	<350 U	<350 U			<350 UJ	<360 UJ	
Anthracene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Benzo(a)anthracene	ug/kg	<180 U	<180 U			420 J	420 J	0.00
Benzo(b)fluoranthene	ug/kg	<180 U	<180 U			370 J	360 J	2.740
Nitrobenzene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
3,3'-Dichlorobenzidine	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Benzo(a)pyrene	ug/kg	<180 U	<180 U			420 J	440 J	4.651
Benzo(g,h,i)perylene	ug/kg	<180 U	<180 U			290 J	310 J	6.667
Benzo(k)fluoranthene	ug/kg	<180 U	<180 U			340 J	350 J	2.899
Carbazole	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Chrysene	ug/kg	190	220	10		440 J	440 J	0.00
Dinitro-o-Cresol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
4-Chloro-3-Methylphenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
m- & p- Cresol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2-Methylphenol (o-Cresol)	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Isophorone	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Dibenz(a,H)anthracene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Dibenzofuran	ug/kg	<350 U	<350 U			<350 UJ	<360 UJ	
n-Nitrosodiphenylamine	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
n-Nitrosodi-n-Propylamine	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Hexachloroethane	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
4-Bromophenyl Phenyl ether	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-025	WT-CS-08-025	RPD (%)		WT-CS-09-091	WT-CS-09-091	RPD (%)
	Sample ID	2001644	2001645			2002478	2002479	
	Sample Date	01/09/2002	01/09/2002			05/30/2002	05/30/2002	
	Sample Time	09:20	09:23			16:51	16:53	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201296-7A	E201296-8A			E205C73-16A	E205C73-17A	
Constituent	Units							
4-Chlorophenyl Phenyl ether	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
bis(2-Chloroisopropyl) ether	ug/kg	<350 U	<350 U			<350 UJ	<360 UJ	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Fluoranthene	ug/kg	360	360	0.00		870 J	910 J	4.494
Fluorene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Indeno(1,2,3-C,d)pyrene	ug/kg	<180 U	<180 U			260 J	260 J	0.00
bis(2-Chloroethoxy) Methane	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2-Chloronaphthalene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2-Methylnaphthalene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Phenanthrene	ug/kg	180	<180 U			550 J	560 J	1.802
Phenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2,4,5-Trichlorophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2,4,6-Trichlorophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2,4-Dichlorophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2,4-Dinitrophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2-Chlorophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2-Nitrophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
4-Nitrophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Pentachlorophenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Benzyl Butyl Phthalate	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
di-n-Butyl Phthalate	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Diethyl Phthalate	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Dimethyl Phthalate	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
di-n-Octylphthalate	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
bis(2-Ethylhexyl) Phthalate	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Pyrene	ug/kg	300	330	0.00		760 J	780 J	2.597
2,4-Dinitrotoluene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2,6-Dinitrotoluene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
2,4-Dimethylphenol	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-025	WT-CS-08-025	RPD (%)		WT-CS-09-091	WT-CS-09-091	RPD (%)
	Sample ID	2001644	2001645			2002478	2002479	
	Sample Date	01/09/2002	01/09/2002			05/30/2002	05/30/2002	
	Sample Time	09:20	09:23			16:51	16:53	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201296-7A	E201296-8A			E205C73-16A	E205C73-17A	
Constituent	Units							
Acetone	ug/kg	<450 U	<470 U			<460 U	<570 U	
Benzene	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,2,4-Trichlorobenzene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Chlorobenzene	ug/kg	<110 U	<120 U			<110 U	<140 U	
Ethylbenzene	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,3-Dichlorobenzene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
1,2-Dichlorobenzene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
1,4-Dichlorobenzene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Hexachlorobutadiene	ug/kg	<180 U	<180 U			<180 UJ	<180 UJ	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<220 U	<230 U			<230 U	<290 U	
Carbon Disulfide	ug/kg	<110 U	<120 U			<110 U	<140 U	
Carbon Tetrachloride	ug/kg	<110 U	<120 U			<110 U	<140 U	
Chloroform	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,1,1-Trichloroethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,1,2,2-Tetrachloroethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,1,2-Trichloroethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,1-Dichloroethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
1,2-Dichloroethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
Chloroethane	ug/kg	<220 U	<230 U			<230 U	<290 U	
1,1-Dichloroethene	ug/kg	<110 U	<120 U			<110 U	<140 U	
Vinyl Chloride	ug/kg	<220 U	<230 U			<230 U	<290 U	
Tetrachloroethylene (PCE)	ug/kg	<110 U	<120 U			<110 U	<140 U	
Trichloroethylene (TCE)	ug/kg	<110 U	<120 U			<110 U	<140 U	
2-Hexanone	ug/kg	<220 U	<230 U			<230 U	<290 U	
Bromomethane	ug/kg	<220 U	<230 U			<230 U	<290 U	
Bromodichloromethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
Chloromethane	ug/kg	<220 U	<230 U			<230 U	<290 U	
Dibromochloromethane	ug/kg	<110 U	<120 U			<110 U	<140 U	
Methylene Chloride	ug/kg	<110 U	<120 U			<110 U	<140 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-025	WT-CS-08-025	RPD (%)	WT-CS-09-091	WT-CS-09-091	RPD (%)
	Sample ID	2001644	2001645		2002478	2002479	
	Sample Date	01/09/2002	01/09/2002		05/30/2002	05/30/2002	
	Sample Time	09:20	09:23		16:51	16:53	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E201296-7A	E201296-8A		E205C73-16A	E205C73-17A	
Constituent	Units						
Bromoform	ug/kg	<110 U	<120 U		<110 U	<140 U	
Naphthalene	ug/kg	<180 U	<180 U		<180 UJ	<180 UJ	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<220 U	<230 U		<230 U	<290 U	
DCPA (Dacthal)	ug/kg	<110 U	<120 U		<110 U	<140 U	
trans-1,3-Dichloropropene	ug/kg	<110 U	<120 U		<110 U	<140 U	
cis-1,3-Dichloropropene	ug/kg	<110 U	<120 U		<110 U	<140 U	
Styrene	ug/kg	<110 U	<120 U		<110 U	<140 U	
Toluene	ug/kg	<110 U	<120 U		<110 U	<140 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<110 U	<120 U		<110 U	<140 U	
m- & p- Xylenes	ug/kg	<110 U	<120 U		<110 U	<140 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-016	WT-CS-12-016	RPD (%)	WT-CS-12-032	WT-CS-12-032	RPD (%)
	Sample ID	2001776	2001777		2001858	2001859	
	Sample Date	01/25/2002	01/25/2002		02/11/2002	02/11/2002	
	Sample Time	12:15	12:15		12:00	12:05	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E201956-16A	E201956-17A		E202350-14A	E202350-15A	
Constituent	Units						
Date Metals Analyzed	-	01/29/2002	01/29/2002		02/13/2002	02/13/2002	
Date of Metals SPLP Analysis	-						
Date Organics Analyzed	-	01/29/2002	01/29/2002		02/13/2002	02/13/2002	
Date Physical Analyzed	-	01/29/2002	01/29/2002		02/12/2002	02/12/2002	
Date Semi-volatile Organics Analyzed	-	01/28/2002	01/29/2002		02/12/2002	02/12/2002	
Arsenic	mg/kg	<0.56 UJ	<0.56 UJ		<0.50 U	<0.49 U	
Arsenic (SPLP)	mg/L						
Barium	mg/kg	17	17	0.00	9.1 J	5.2 J	54.5
Barium (SPLP)	mg/L						
Cadmium	mg/kg	<0.11 U	<0.11 U		<0.10 U	<0.099 U	
Cadmium (SPLP)	mg/L						
Chromium, Total	mg/kg	11	9.1	20	2.5	1.6	44
Chromium, Total (SPLP)	mg/L						
Copper	mg/kg	8.8	7.8	12.0	2.1 J	<0.49 UJ	
Copper (SPLP)	mg/L						
Lead	mg/kg	10	10	0.00	3.3 J	0.59 J	139
Lead (SPLP)	mg/L						
Mercury	mg/kg	0.048	0.030	46.2	<0.022 U	<0.022 U	
Mercury (SPLP)	mg/L						
Nickel	mg/kg	8.8	7.9	11	2.7	1.7	45.5
Nickel (SPLP)	mg/L						
Selenium	mg/kg	<0.56 U	<0.56 U		<0.50 U	<0.49 U	
Selenium (SPLP)	mg/L						
Silver	mg/kg	0.20	0.16	22	<0.10 U	<0.099 U	
Silver (SPLP)	mg/L						
Zinc	mg/kg	18	18	0.00	3.7	2.8	28
Zinc (SPLP)	mg/L						
Hexachlorobenzene	ug/kg	<210 U	<210 U		<190 U	<180 U	
Hexachlorocyclopentadiene	ug/kg	<210 U	<210 U		<190 UJ	<180 UJ	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-016	WT-CS-12-016	RPD (%)		WT-CS-12-032	WT-CS-12-032	RPD (%)
	Sample ID	2001776	2001777			2001858	2001859	
	Sample Date	01/25/2002	01/25/2002			02/11/2002	02/11/2002	
	Sample Time	12:15	12:15			12:00	12:05	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201956-16A	E201956-17A			E202350-14A	E202350-15A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.62 U	<0.63 U			<0.56 U	<0.55 U	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	280 J	280 J	0.00		470 J	230 J	68.571
Acenaphthylene	ug/kg	<210 U	240			<190 U	<180 U	
Acenaphthene	ug/kg	<210 U	<210 U			<190 U	<180 U	
3-Nitroaniline	ug/kg	<410 U	<420 U			<370 U	<360 U	
2-Nitroaniline	ug/kg	<410 U	<420 U			<370 U	<360 U	
4-Chloroaniline	ug/kg	<410 U	<420 U			<370 U	<360 U	
4-Nitroaniline	ug/kg	<410 U	<420 U			<370 U	<360 U	
Anthracene	ug/kg	<210 U	<210 U			<190 U	<180 U	
Benzo(a)anthracene	ug/kg	<210 UJ	430 J			<190 U	<180 U	
Benzo(b)fluoranthene	ug/kg	<210 UJ	550 J			<190 U	<180 U	
Nitrobenzene	ug/kg	<210 U	<210 U			<190 U	<180 U	
3,3'-Dichlorobenzidine	ug/kg	<210 U	<210 U			<190 U	<180 U	
Benzo(a)pyrene	ug/kg	<210 UJ	570 J			<190 U	<180 U	
Benzo(g,h,i)perylene	ug/kg	<210 U	320			<190 U	<180 U	
Benzo(k)fluoranthene	ug/kg	<210 UJ	570 J			<190 U	<180 U	
Carbazole	ug/kg	<210 U	<210 U			<190 U	<180 U	
Chrysene	ug/kg	<210 UJ	620 J			<190 U	<180 U	
Dinitro-o-Cresol	ug/kg	<210 U	<210 U			<190 U	<180 U	
4-Chloro-3-Methylphenol	ug/kg	<210 U	<210 U			<190 U	<180 U	
m- & p- Cresol	ug/kg	<210 U	<210 U			<190 U	<180 U	
2-Methylphenol (o-Cresol)	ug/kg	<210 U	<210 U			<190 U	<180 U	
Isophorone	ug/kg	<210 U	<210 U			<190 U	<180 U	
Dibenz(a,H)anthracene	ug/kg	<210 U	<210 U			<190 U	<180 U	
Dibenzofuran	ug/kg	<410 U	<420 U			<370 U	<360 U	
n-Nitrosodiphenylamine	ug/kg	<210 U	<210 U			<190 U	<180 U	
n-Nitrosodi-n-Propylamine	ug/kg	<210 U	<210 U			<190 U	<180 U	
Hexachloroethane	ug/kg	<210 U	<210 U			<190 U	<180 U	
4-Bromophenyl Phenyl ether	ug/kg	<210 U	<210 U			<190 U	<180 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-016	WT-CS-12-016	RPD (%)	WT-CS-12-032	WT-CS-12-032	RPD (%)
	Sample ID	2001776	2001777		2001858	2001859	
	Sample Date	01/25/2002	01/25/2002		02/11/2002	02/11/2002	
	Sample Time	12:15	12:15		12:00	12:05	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E201956-16A	E201956-17A		E202350-14A	E202350-15A	
Constituent	Units						
4-Chlorophenyl Phenyl ether	ug/kg	<210 U	<210 U		<190 U	<180 U	
bis(2-Chloroisopropyl) ether	ug/kg	<410 U	<420 U		<370 U	<360 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<210 U	<210 U		<190 U	<180 U	
Fluoranthene	ug/kg	350 J	1200 J	109.677	<190 U	<180 U	
Fluorene	ug/kg	<210 U	<210 U		<190 U	<180 U	
Indeno(1,2,3-C,d)pyrene	ug/kg	<210 U	300		<190 U	<180 U	
bis(2-Chloroethoxy) Methane	ug/kg	<210 UJ	<210 UJ		<190 U	<180 U	
2-Chloronaphthalene	ug/kg	<210 U	<210 U		<190 U	<180 U	
2-Methylnaphthalene	ug/kg	<210 U	<210 U		<190 U	<180 U	
Phenanthrene	ug/kg	<210 UJ	460 J		<190 U	<180 U	
Phenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
2,4,5-Trichlorophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
2,4,6-Trichlorophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
2,4-Dichlorophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
2,4-Dinitrophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
2-Chlorophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
2-Nitrophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
4-Nitrophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
Pentachlorophenol	ug/kg	<210 U	<210 U		<190 U	<180 U	
Benzyl Butyl Phthalate	ug/kg	<210 U	<210 U		<190 U	<180 U	
di-n-Butyl Phthalate	ug/kg	<210 U	<210 U		<190 U	<180 U	
Diethyl Phthalate	ug/kg	<210 U	<210 U		<190 U	<180 U	
Dimethyl Phthalate	ug/kg	<210 U	<210 U		<190 U	<180 U	
di-n-Octylphthalate	ug/kg	<210 U	<210 U		<190 U	<180 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	<210 U	<210 U		<190 U	<180 U	
Pyrene	ug/kg	330 J	1100 J	108	<190 U	<180 U	
2,4-Dinitrotoluene	ug/kg	<210 U	<210 U		<190 U	<180 U	
2,6-Dinitrotoluene	ug/kg	<210 U	<210 U		<190 U	<180 U	
2,4-Dimethylphenol	ug/kg	<210 U	<210 U		<190 U	<180 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-016	WT-CS-12-016	RPD (%)		WT-CS-12-032	WT-CS-12-032	RPD (%)
	Sample ID	2001776	2001777			2001858	2001859	
	Sample Date	01/25/2002	01/25/2002			02/11/2002	02/11/2002	
	Sample Time	12:15	12:15			12:00	12:05	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201956-16A	E201956-17A			E202350-14A	E202350-15A	
Constituent	Units							
Acetone	ug/kg	<560 U	<550 U			<390 U	<450 U	
Benzene	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,2,4-Trichlorobenzene	ug/kg	<210 U	<210 U			<190 U	<180 U	
Chlorobenzene	ug/kg	<140 U	<140 U			<98 U	<110 U	
Ethylbenzene	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,3-Dichlorobenzene	ug/kg	<210 U	<210 U			<190 U	<180 U	
1,2-Dichlorobenzene	ug/kg	<210 U	<210 U			<190 U	<180 U	
1,4-Dichlorobenzene	ug/kg	<210 U	<210 U			<190 U	<180 U	
Hexachlorobutadiene	ug/kg	<210 U	<210 U			<190 U	<180 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<280 U	<280 U			<200 U	<230 U	
Carbon Disulfide	ug/kg	<140 U	<140 U			<98 U	<110 U	
Carbon Tetrachloride	ug/kg	<140 U	<140 U			<98 U	<110 U	
Chloroform	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,1,1-Trichloroethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,1,2,2-Tetrachloroethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,1,2-Trichloroethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,1-Dichloroethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
1,2-Dichloroethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
Chloroethane	ug/kg	<280 UJ	<280 U			<200 U	<230 U	
1,1-Dichloroethene	ug/kg	<140 U	<140 U			<98 U	<110 U	
Vinyl Chloride	ug/kg	<280 U	<280 U			<200 U	<230 U	
Tetrachloroethylene (PCE)	ug/kg	<140 U	<140 U			<98 U	<110 U	
Trichloroethylene (TCE)	ug/kg	<140 U	<140 U			<98 U	<110 U	
2-Hexanone	ug/kg	<280 U	<280 U			<200 UJ	<230 UJ	
Bromomethane	ug/kg	<280 U	<280 U			<200 U	<230 U	
Bromodichloromethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
Chloromethane	ug/kg	<280 U	<280 U			<200 U	<230 U	
Dibromochloromethane	ug/kg	<140 U	<140 U			<98 U	<110 U	
Methylene Chloride	ug/kg	<140 U	<140 U			<98 U	<110 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-12-016	WT-CS-12-016	RPD (%)		WT-CS-12-032	WT-CS-12-032	RPD (%)
	Sample ID	2001776	2001777			2001858	2001859	
	Sample Date	01/25/2002	01/25/2002			02/11/2002	02/11/2002	
	Sample Time	12:15	12:15			12:00	12:05	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201956-16A	E201956-17A			E202350-14A	E202350-15A	
Constituent	Units							
Bromoform	ug/kg	<140 U	<140 U			<98 U	<110 U	
Naphthalene	ug/kg	<210 U	<210 U			<190 U	<180 U	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<280 U	<280 U			<200 UJ	<230 UJ	
DCPA (Dacthal)	ug/kg	<140 U	<140 U			<98 U	<110 U	
trans-1,3-Dichloropropene	ug/kg	<140 U	<140 U			<98 U	<110 U	
cis-1,3-Dichloropropene	ug/kg	<140 U	<140 U			<98 U	<110 U	
Styrene	ug/kg	<140 U	<140 U			<98 U	<110 U	
Toluene	ug/kg	<140 U	<140 U			<98 U	<110 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<140 U	<140 U			<98 U	<110 U	
m- & p- Xylenes	ug/kg	<140 U	<140 U			<98 U	<110 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-13-010	WT-CS-13-010	RPD (%)		WT-CS-13-030	WT-CS-13-030	RPD (%)
	Sample ID	2001824	2001825			2001998	2001999	
	Sample Date	02/05/2002	02/05/2002			03/20/2002	03/20/2002	
	Sample Time	11:59	12:02			10:08	10:08	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E202132-10A	E202132-11A			E203808-2A	E203808-3A	
Constituent	Units							
Date Metals Analyzed	-	02/07/2002	02/07/2002			03/22/2002	03/22/2002	
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-	02/06/2002	02/06/2002			03/21/2002	03/21/2002	
Date Physical Analyzed	-	02/06/2002	02/06/2002			03/21/2002	03/21/2002	
Date Semi-volatile Organics Analyzed	-	02/06/2002	02/06/2002			03/22/2002	03/22/2002	
Arsenic	mg/kg	<0.76 UJ	<0.72 UJ			<0.57 UJ	<0.56 UJ	
Arsenic (SPLP)	mg/L							
Barium	mg/kg	47	37	24		23	29	20
Barium (SPLP)	mg/L							
Cadmium	mg/kg	22 J	9.6 J	78.5		4.2 J	10 J	81.7
Cadmium (SPLP)	mg/L							
Chromium, Total	mg/kg	9500 J	5200 J	58.5034		1000	1200	0.00
Chromium, Total (SPLP)	mg/L							
Copper	mg/kg	1700 J	1300 J	26.667		190 J	350 J	59.259
Copper (SPLP)	mg/L							
Lead	mg/kg	300 J	66 J	128		69 J	120 J	54.0
Lead (SPLP)	mg/L							
Mercury	mg/kg	0.11 J	0.042 J	89.5		1.0 J	2.1 J	71.0
Mercury (SPLP)	mg/L							
Nickel	mg/kg	630	460	31		110 J	220 J	66.667
Nickel (SPLP)	mg/L							
Selenium	mg/kg	<0.76 UJ	<0.72 UJ			<0.57 U	<0.56 U	
Selenium (SPLP)	mg/L							
Silver	mg/kg	6.5 J	2.4 J	92.1		3.2 J	9.7 J	100.8
Silver (SPLP)	mg/L							
Zinc	mg/kg	44 J	25 J	55.07		23 J	59 J	87.80
Zinc (SPLP)	mg/L							
Hexachlorobenzene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Hexachlorocyclopentadiene	ug/kg	<280 U	<260 U			<210 U	<2100 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-13-010	WT-CS-13-010	RPD (%)		WT-CS-13-030	WT-CS-13-030	RPD (%)
	Sample ID	2001824	2001825			2001998	2001999	
	Sample Date	02/05/2002	02/05/2002			03/20/2002	03/20/2002	
	Sample Time	11:59	12:02			10:08	10:08	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E202132-10A	E202132-11A			E203808-2A	E203808-3A	
Constituent	Units							
Cyanide (Total)	mg/kg	<0.84 UR	0.90 J			0.88	1.0	11
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	1700 J	910 J	60.5		1600 J	3300 J	69.3878
Acenaphthylene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Acenaphthene	ug/kg	<280 U	<260 U			1700	2600	42
3-Nitroaniline	ug/kg	<560 U	<530 U			<420 U	<4200 U	
2-Nitroaniline	ug/kg	<560 U	<530 U			<420 U	<4200 U	
4-Chloroaniline	ug/kg	<560 U	<530 U			<420 U	<4200 U	
4-Nitroaniline	ug/kg	<560 U	<530 U			<420 U	<4200 U	
Anthracene	ug/kg	<280 U	<260 U			600 J	<2100 U	
Benzo(a)anthracene	ug/kg	<280 U	<260 U			1900 J	3200 J	50.9804
Benzo(b)fluoranthene	ug/kg	<280 U	<260 U			1500 J	2600 J	53.6585
Nitrobenzene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
3,3'-Dichlorobenzidine	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Benzo(a)pyrene	ug/kg	<280 U	<260 U			1300 J	3000 J	79.0698
Benzo(g,h,i)perylene	ug/kg	<280 U	<260 U			490 J	<2100 U	
Benzo(k)fluoranthene	ug/kg	<280 U	<260 U			1200 J	3100 J	88.3721
Carbazole	ug/kg	<280 U	<260 U			530 J	<2100 U	
Chrysene	ug/kg	<280 U	<260 U			1900 J	3500 J	59.2593
Dinitro-o-Cresol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
4-Chloro-3-Methylphenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
m- & p- Cresol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2-Methylphenol (o-Cresol)	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Isophorone	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Dibenz(a,H)anthracene	ug/kg	<280 U	<260 U			270 J	<2100 U	
Dibenzofuran	ug/kg	<560 U	<530 U			<420 U	<4200 U	
n-Nitrosodiphenylamine	ug/kg	<280 U	<260 U			<210 U	<2100 U	
n-Nitrosodi-n-Propylamine	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Hexachloroethane	ug/kg	<280 U	<260 U			<210 U	<2100 U	
4-Bromophenyl Phenyl ether	ug/kg	<280 U	<260 U			<210 U	<2100 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-13-010	WT-CS-13-010	RPD (%)		WT-CS-13-030	WT-CS-13-030	RPD (%)
	Sample ID	2001824	2001825			2001998	2001999	
	Sample Date	02/05/2002	02/05/2002			03/20/2002	03/20/2002	
	Sample Time	11:59	12:02			10:08	10:08	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E202132-10A	E202132-11A			E203808-2A	E203808-3A	
Constituent	Units							
4-Chlorophenyl Phenyl ether	ug/kg	<280 U	<260 U			<210 U	<2100 U	
bis(2-Chloroisopropyl) ether	ug/kg	<560 U	<530 U			<420 U	<4200 U	
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Fluoranthene	ug/kg	670	740	7		7000 J	9900	34
Fluorene	ug/kg	<280 U	<260 U			1500	<2100 U	
Indeno(1,2,3-C,d)pyrene	ug/kg	<280 U	<260 U			500 J	<2100 U	
bis(2-Chloroethoxy) Methane	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2-Chloronaphthalene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2-Methylnaphthalene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Phenanthrene	ug/kg	<280 U	280			2000 J	5600 J	94.7368
Phenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2,4,5-Trichlorophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2,4,6-Trichlorophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2,4-Dichlorophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2,4-Dinitrophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2-Chlorophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2-Nitrophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
4-Nitrophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Pentachlorophenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Benzyl Butyl Phthalate	ug/kg	<280 U	<260 U			<210 U	<2100 U	
di-n-Butyl Phthalate	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Diethyl Phthalate	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Dimethyl Phthalate	ug/kg	<280 U	<260 U			<210 U	<2100 U	
di-n-Octylphthalate	ug/kg	<280 U	<260 U			<210 UJ	<2100 U	
bis(2-Ethylhexyl) Phthalate	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Pyrene	ug/kg	470	520	10		4700 J	7100	41
2,4-Dinitrotoluene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2,6-Dinitrotoluene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
2,4-Dimethylphenol	ug/kg	<280 U	<260 U			<210 U	<2100 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-13-010	WT-CS-13-010	RPD (%)		WT-CS-13-030	WT-CS-13-030	RPD (%)
	Sample ID	2001824	2001825			2001998	2001999	
	Sample Date	02/05/2002	02/05/2002			03/20/2002	03/20/2002	
	Sample Time	11:59	12:02			10:08	10:08	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E202132-10A	E202132-11A			E203808-2A	E203808-3A	
Constituent	Units							
Acetone	ug/kg	<780 U	<770 U			<460 U	<560 U	
Benzene	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,2,4-Trichlorobenzene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Chlorobenzene	ug/kg	<200 U	<190 U			<120 U	<140 U	
Ethylbenzene	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,3-Dichlorobenzene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
1,2-Dichlorobenzene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
1,4-Dichlorobenzene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Hexachlorobutadiene	ug/kg	<280 U	<260 U			<210 U	<2100 U	
Methyl Ethyl ketone (2-Butanone)	ug/kg	<390 U	<390 U			<230 U	<280 U	
Carbon Disulfide	ug/kg	<200 U	<190 U			<120 U	<140 U	
Carbon Tetrachloride	ug/kg	<200 U	<190 U			<120 U	<140 U	
Chloroform	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,1,1-Trichloroethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,1,2,2-Tetrachloroethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,1,2-Trichloroethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,1-Dichloroethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
1,2-Dichloroethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
Chloroethane	ug/kg	<390 U	<390 U			<230 U	<280 U	
1,1-Dichloroethene	ug/kg	<200 U	<190 U			<120 U	<140 U	
Vinyl Chloride	ug/kg	<390 U	<390 U			<230 U	<280 U	
Tetrachloroethylene (PCE)	ug/kg	<200 U	<190 U			<120 U	<140 U	
Trichloroethylene (TCE)	ug/kg	<200 U	<190 U			<120 U	<140 U	
2-Hexanone	ug/kg	<390 U	<390 U			<230 U	<280 U	
Bromomethane	ug/kg	<390 U	<390 U			<230 U	<280 U	
Bromodichloromethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
Chloromethane	ug/kg	<390 U	<390 U			<230 U	<280 U	
Dibromochloromethane	ug/kg	<200 U	<190 U			<120 U	<140 U	
Methylene Chloride	ug/kg	<200 U	<190 U			<120 U	<140 U	

Table 4-4
FIELD DUPLICATE DATA FOR OTHER PARAMETERS IN CONFIRMATORY SOIL SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-13-010	WT-CS-13-010	RPD (%)	WT-CS-13-030	WT-CS-13-030	RPD (%)
	Sample ID	2001824	2001825		2001998	2001999	
	Sample Date	02/05/2002	02/05/2002		03/20/2002	03/20/2002	
	Sample Time	11:59	12:02		10:08	10:08	
	Laboratory	PREM	PREM		PREM	PREM	
	Lab. Number	E202132-10A	E202132-11A		E203808-2A	E203808-3A	
Constituent	Units						
Bromoform	ug/kg	<200 U	<190 U		<120 U	<140 U	
Naphthalene	ug/kg	<280 U	<260 U		<210 U	<2100 U	
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg	<390 U	<390 U		<230 U	<280 U	
DCPA (Dacthal)	ug/kg	<200 U	<190 U		<120 U	<140 U	
trans-1,3-Dichloropropene	ug/kg	<200 U	<190 U		<120 U	<140 U	
cis-1,3-Dichloropropene	ug/kg	<200 U	<190 U		<120 U	<140 U	
Styrene	ug/kg	<200 U	<190 U		<120 U	<140 U	
Toluene	ug/kg	<200 U	<190 U		<120 U	<140 U	
o-Xylene (1,2-Dimethylbenzene)	ug/kg	<200 U	<190 U		<120 U	<140 U	
m- & p- Xylenes	ug/kg	<200 U	<190 U		<120 U	<140 U	

Table 4-5
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY CONCRETE CHIP SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-034	WT-CS-07-034	WT-CS-07-034
	Sample ID	2002502	2002503	2002507
	Sample Date	06/10/2002	06/10/2002	06/10/2002
	Sample Time	13:45	14:00	14:20
	Laboratory	PREM	PREM	PREM
	Lab. Number	E206410-1	E206410-2	E206410-5A
Constituent	Units			
Date PCBs Analyzed	-	06/12/2002	06/12/2002	
Date Metals Analyzed	-			06/13/2002
Date Organics Analyzed	-			06/13/2002
Date Physical Analyzed	-			06/13/2002
Date Semi-volatile Organics Analyzed	-			06/14/2002
Arsenic	mg/kg			1.1
Barium	mg/kg			37
Cadmium	mg/kg			<0.092 U
Chromium, Total	mg/kg			16
Copper	mg/kg			16
Lead	mg/kg			6.4 J
Mercury	mg/kg			<0.020 U
Nickel	mg/kg			8.9
Selenium	mg/kg			<0.46 U
Silver	mg/kg			<0.092 U
Zinc	mg/kg			24
PCB-1016 (Arochlor 1016)	ug/kg	<120 U	<120 U	
PCB-1221 (Arochlor 1221)	ug/kg	<120 U	<120 U	
PCB-1232 (Arochlor 1232)	ug/kg	<120 U	<120 U	
PCB-1242 (Arochlor 1242)	ug/kg	<120 U	<120 U	
PCB-1248 (Arochlor 1248)	ug/kg	<120 U	<120 U	
PCB-1254 (Arochlor 1254)	ug/kg	<120 U	<120 U	
PCB-1260 (Arochlor 1260)	ug/kg	<120 U	<120 U	
Hexachlorobenzene	ug/kg			<510 U
Hexachlorocyclopentadiene	ug/kg			<510 U
Cyanide (Total)	mg/kg			<0.51 U
Total Petroleum Hydrocarbons EPA 418.1	mg/kg			<200 U
Acenaphthylene	ug/kg			<510 U
Acenaphthene	ug/kg			<510 U

Table 4-5
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY CONCRETE CHIP SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-034	WT-CS-07-034	WT-CS-07-034				
	Sample ID	2002502	2002503	2002507				
	Sample Date	06/10/2002	06/10/2002	06/10/2002				
	Sample Time	13:45	14:00	14:20				
	Laboratory	PREM	PREM	PREM				
	Lab. Number	E206410-1	E206410-2	E206410-5A				
Constituent	Units							
3-Nitroaniline	ug/kg			<1000 U				
2-Nitroaniline	ug/kg			<1000 U				
4-Chloroaniline	ug/kg			<1000 U				
4-Nitroaniline	ug/kg			<1000 U				
Anthracene	ug/kg			<510 U				
Benzo(a)anthracene	ug/kg			<510 U				
Benzo(b)fluoranthene	ug/kg			<510 U				
Nitrobenzene	ug/kg			<510 U				
3,3'-Dichlorobenzidine	ug/kg			<510 U				
Benzo(a)pyrene	ug/kg			<510 U				
Benzo(g,h,i)perylene	ug/kg			<510 U				
Benzo(k)fluoranthene	ug/kg			<510 U				
Carbazole	ug/kg			<510 U				
Chrysene	ug/kg			<510 U				
Dinitro-o-Cresol	ug/kg			<510 UR				
4-Chloro-3-Methylphenol	ug/kg			<510 UR				
m- & p- Cresol	ug/kg			<510 UR				
2-Methylphenol (o-Cresol)	ug/kg			<510 UR				
Isophorone	ug/kg			<510 U				
Dibenz(a,H)anthracene	ug/kg			<510 U				
Dibenzofuran	ug/kg			<1000 U				
n-Nitrosodiphenylamine	ug/kg			<510 U				
n-Nitrosodi-n-Propylamine	ug/kg			<510 U				
Hexachloroethane	ug/kg			<510 U				
4-Bromophenyl Phenyl ether	ug/kg			<510 U				
4-Chlorophenyl Phenyl ether	ug/kg			<510 U				
bis(2-Chloroisopropyl) ether	ug/kg			<1000 U				
bis(2-Chloroethyl) ether (2-Chloroethyl	ug/kg			<510 U				
Fluoranthene	ug/kg			<510 U				

Table 4-5
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY CONCRETE CHIP SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-034	WT-CS-07-034	WT-CS-07-034
	Sample ID	2002502	2002503	2002507
	Sample Date	06/10/2002	06/10/2002	06/10/2002
	Sample Time	13:45	14:00	14:20
	Laboratory	PREM	PREM	PREM
	Lab. Number	E206410-1	E206410-2	E206410-5A
Constituent	Units			
Fluorene	ug/kg			<510 U
Indeno(1,2,3-C,d)pyrene	ug/kg			<510 U
bis(2-Chloroethoxy) Methane	ug/kg			<510 U
2-Chloronaphthalene	ug/kg			<510 U
2-Methylnaphthalene	ug/kg			<510 U
Phenanthrene	ug/kg			<510 U
Phenol	ug/kg			<510 UR
2,4,5-Trichlorophenol	ug/kg			<510 UR
2,4,6-Trichlorophenol	ug/kg			<510 UR
2,4-Dichlorophenol	ug/kg			<510 UR
2,4-Dinitrophenol	ug/kg			<510 UR
2-Chlorophenol	ug/kg			<510 UR
2-Nitrophenol	ug/kg			<510 UR
4-Nitrophenol	ug/kg			<510 UR
Pentachlorophenol	ug/kg			<510 UR
Benzyl Butyl Phthalate	ug/kg			<510 U
di-n-Butyl Phthalate	ug/kg			<510 U
Diethyl Phthalate	ug/kg			<510 U
Dimethyl Phthalate	ug/kg			<510 U
di-n-Octylphthalate	ug/kg			<510 U
bis(2-Ethylhexyl) Phthalate	ug/kg			<510 U
Pyrene	ug/kg			<510 U
2,4-Dinitrotoluene	ug/kg			<510 U
2,6-Dinitrotoluene	ug/kg			<510 U
2,4-Dimethylphenol	ug/kg			<510 UR
Acetone	ug/kg			<20 UJ
Benzene	ug/kg			<5.1 UJ
1,2,4-Trichlorobenzene	ug/kg			<510 U
Chlorobenzene	ug/kg			<5.1 UJ

Table 4-5
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY CONCRETE CHIP SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-034	WT-CS-07-034	WT-CS-07-034
	Sample ID	2002502	2002503	2002507
	Sample Date	06/10/2002	06/10/2002	06/10/2002
	Sample Time	13:45	14:00	14:20
	Laboratory	PREM	PREM	PREM
	Lab. Number	E206410-1	E206410-2	E206410-5A
Constituent	Units			
Ethylbenzene	ug/kg			<5.1 UJ
1,3-Dichlorobenzene	ug/kg			<510 U
1,2-Dichlorobenzene	ug/kg			<510 U
1,4-Dichlorobenzene	ug/kg			<510 U
Hexachlorobutadiene	ug/kg			<510 U
Methyl Ethyl ketone (2-Butanone)	ug/kg			<10 UJ
Carbon Disulfide	ug/kg			<5.1 UJ
Carbon Tetrachloride	ug/kg			<5.1 UJ
Chloroform	ug/kg			<5.1 UJ
1,1,1-Trichloroethane	ug/kg			<5.1 UJ
1,1,2,2-Tetrachloroethane	ug/kg			<5.1 UR
1,1,2-Trichloroethane	ug/kg			<5.1 UJ
1,1-Dichloroethane	ug/kg			<5.1 UJ
1,2-Dichloroethane	ug/kg			<5.1 UJ
Chloroethane	ug/kg			<10 UJ
1,1-Dichloroethene	ug/kg			<5.1 UJ
Vinyl Chloride	ug/kg			<10 UJ
Tetrachloroethylene (PCE)	ug/kg			<5.1 UJ
Trichloroethylene (TCE)	ug/kg			<5.1 UJ
2-Hexanone	ug/kg			<10 UJ
Bromomethane	ug/kg			<10 UJ
Bromodichloromethane	ug/kg			<5.1 UJ
Chloromethane	ug/kg			<10 UJ
Dibromochloromethane	ug/kg			<5.1 UJ
Methylene Chloride	ug/kg			<5.1 UJ
Bromoform	ug/kg			<5.1 UJ
Naphthalene	ug/kg			<510 U
Methyl Isobutyl ketone (4-Methyl-2-Penta	ug/kg			<10 UJ
DCPA (Dacthal)	ug/kg			<5.1 UJ

Table 4-5
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY CONCRETE CHIP SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-07-034	WT-CS-07-034	WT-CS-07-034
	Sample ID	2002502	2002503	2002507
	Sample Date	06/10/2002	06/10/2002	06/10/2002
	Sample Time	13:45	14:00	14:20
	Laboratory	PREM	PREM	PREM
	Lab. Number	E206410-1	E206410-2	E206410-5A
Constituent	Units			
trans-1,3-Dichloropropene	ug/kg			<5.1 UJ
cis-1,3-Dichloropropene	ug/kg			<5.1 UJ
Styrene	ug/kg			<5.1 UJ
Toluene	ug/kg			<5.1 UJ
o-Xylene (1,2-Dimethylbenzene)	ug/kg			<5.1 UJ
m- & p- Xylenes	ug/kg			<5.1 UJ

Table 4-6
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY WIPE AND WOOD SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-08-028	WT-CS-08-028	RPD (%)		WT-CS-11-027	WT-CS-11-027	RPD (%)
	Sample ID	2001693	2001694			2002431	2002456	
	Sample Date	01/16/2002	01/16/2002			05/29/2002	05/29/2002	
	Sample Time	09:10	09:11				08:31	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201577-3	E201577-4			E205B59-2	E205B59-3	
Constituent	Units							
Date PCBs Analyzed	-	01/17/2002	01/17/2002			05/29/2002	05/29/2002	
PCB-1016 (Arochlor 1016)	ng/10	<400 U	<400 U			<990 U	<990 U	
PCB-1221 (Arochlor 1221)	ng/10	<400 U	<400 U			<990 U	<990 U	
PCB-1232 (Arochlor 1232)	ng/10	<400 U	<400 U			<990 U	<990 U	
PCB-1242 (Arochlor 1242)	ng/10	<400 U	<400 U			<990 U	<990 U	
PCB-1248 (Arochlor 1248)	ng/10	<400 U	<400 U			<990 U	<990 U	
PCB-1254 (Arochlor 1254)	ng/10	590	<400 U			<990 U	<990 U	
PCB-1260 (Arochlor 1260)	ng/10	<400 U	<400 U			<990 U	<990 U	

Table 4-6
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY WIPE AND WOOD SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-11-032	WT-CS-11-032	RPD (%)		WT-CS-11-047	WT-CS-11-047	RPD (%)
	Sample ID	2001681	2001682			2001715	2001716	
	Sample Date	01/15/2002	01/15/2002			01/16/2002	01/16/2002	
	Sample Time	10:40	10:50			14:55	14:58	
	Laboratory	PREM	PREM			PREM	PREM	
	Lab. Number	E201509-8	E201509-9			E201632-3	E201632-4	
Constituent	Units							
Date PCBs Analyzed	-	01/15/2002	01/15/2002			01/18/2002	01/18/2002	
PCB-1016 (Arochlor 1016)	ng/10	<44 U	<53 U			<400 U	<400 U	
PCB-1221 (Arochlor 1221)	ng/10	<44 U	<53 U			<400 U	<400 U	
PCB-1232 (Arochlor 1232)	ng/10	<44 U	<53 U			<400 U	<400 U	
PCB-1242 (Arochlor 1242)	ng/10	<44 U	<53 U			<400 U	<400 U	
PCB-1248 (Arochlor 1248)	ng/10	<44 U	<53 U			<400 U	<400 U	
PCB-1254 (Arochlor 1254)	ng/10	1300 J	270 J	131		<400 U	<400 U	
PCB-1260 (Arochlor 1260)	ng/10	<44 U	<53 U			<400 U	<400 U	

Table 4-6
FIELD DUPLICATE DATA FOR PCBS IN CONFIRMATORY WIPE AND WOOD SAMPLES
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-11-082	WT-CS-11-082	RPD (%)
	Sample ID	2002511	2002512	
	Sample Date	06/13/2002	06/13/2002	
	Sample Time	10:24	10:26	
	Laboratory	PREM	PREM	
	Lab. Number	E206656-4	E206656-5	
Constituent	Units			
Date PCBs Analyzed	-	06/15/2002	06/15/2002	
PCB-1016 (Arochlor 1016)	ng/10	<400 U	<400 U	
PCB-1221 (Arochlor 1221)	ng/10	<400 U	<400 U	
PCB-1232 (Arochlor 1232)	ng/10	<400 U	<400 U	
PCB-1242 (Arochlor 1242)	ng/10	<400 U	<400 U	
PCB-1248 (Arochlor 1248)	ng/10	<400 U	<400 U	
PCB-1254 (Arochlor 1254)	ng/10	1700	<400 U	
PCB-1260 (Arochlor 1260)	ng/10	<400 U	<400 U	

Table 4-7
OVERALL ASSESSMENT OF PERFORMANCE EVALUATION DATA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Grand Total	Total Analyzed	Total % Correct
	1256	94%

PCB			
Compound	Method	Total Analyzed	% Correct
PCB 1254	8082	42	95%
OVERALL	**8082**	**42**	**95%**

METALS			
Compound	Method	Total Analyzed	% Correct
Arsenic	6010B	17	100%
Barium	6010B	17	94%
Cadmium	6010B	17	100%
Chromium	6010B	17	100%
Copper	6010B	17	100%
Cyanide	9012	16	100%
Lead	6010B	17	100%
Mercury	7470	15	80%
Nickel	6010B	17	100%
Selenium	6010B	17	100%
Silver	6010B	17	100%
Zinc	6010B	17	88%
OVERALL	**6010B**	**201**	**97%**

TPH			
Compound	Method	Total Analyzed	% Correct
TPH	418.1	18	61%
OVERALL	**418.1**	**18**	**61%**

VOC			
Compound	Method	Total Analyzed	% Correct
Benzene	8260B	17	88%
Benzene,chloro-	8260B	17	94%
Benzene,ethyl-	8260B	17	94%
Carbon Tetrachloride	8260B	17	94%
Chloroform	8260B	17	94%
Ethane,1,1,1-trichloro-	8260B	17	88%
Ethane,1,1,2,2-tetrachloro-	8260B	14	93%
Ethane,1,1,2-trichloro-	8260B	8	88%
Ethane,1,2-dichloro-	8260B	17	94%
Ethylene,1,1-dichloro-	8260B	4	100%
Ethylene,tetrachloro-	8260B	17	88%
Ethylene,trichloro-	8260B	17	82%
Methane,bromo-	8260B	2	100%
Methane,bromodichloro-	8260B	17	94%
Methane,dibromochloro-	8260B	17	94%
Methane,dichloro-	8260B	17	94%
Methane,tribromo-	8260B	17	94%
Pentanone,4-methyl-2-	8260B	15	93%
Propane,1,2-dichloro-	8260B	10	90%
Toluene	8260B	17	94%
Xylenes,m- & p-	8260B	7	100%
Xylene,o-	8260B	7	86%
OVERALL	**8260B**	**305**	**93%**

Table 4-7
OVERALL ASSESSMENT OF PERFORMANCE EVALUATION DATA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

SVOC			
Compound	Method	Total Analyzed	% Correct
Acenaphthylene	8270C	14	100%
Acenapthalene	8270C	8	100%
Anthracene	8270C	16	88%
Benz[a]anthracene	8270C	14	71%
Benz[e]acephenanthrylene	8270C	13	85%
Benzene,1,2,4-trichloro-	8270C	17	94%
Benzene,hexachloro-	8270C	9	78%
Benzene,m-dichloro-	8270C	3	100%
Benzene,nitro- Total	8270C	15	93%
Benzene,o-dichloro-	8270C	18	100%
Benzene,p-dichloro-	8270C	3	100%
Benzo[a]pyrene	8270C	7	71%
Benzo[ghi]perylene	8270C	4	100%
Benzo[k]fluoranthene	8270C	9	89%
Butadiene,hexachloro-1,3-	8270C	5	100%
Chrysene	8270C	17	82%
Cresol,4,6-dinitro-o-	8270C	14	100%
Cresol,4-chloro-m-	8270C	14	100%
Cresol,o-	8270C	17	100%
Cyclohexen-1-one,3,5,5-trimethyl-2-	8270C	12	100%
Cyclopentadiene,1,2,3,4,5,5-hexachloro-1	8270C	5	100%
Dibenz[a,h]anthracene	8270C	8	100%
Dibenzofuran	8270C	16	100%
Diphenylamine,n-nitroso-	8270C	8	100%
Dipropylamine,n-nitroso-	8270C	7	100%
Ethane,hexachloro-	8270C	4	100%
Ether, 4-Bromophenyl Phenyl	8270C	13	100%
Ether, 4-Chlorophenyl Phenyl	8270C	14	93%
Ether, bis(2-Chloro-1-methylethyl)	8270C	7	57%
Ether, bis(2-Chloroethyl)	8270C	3	100%
Fluoranthene	8270C	14	93%
Fluorene	8270C	14	93%
Indeno[1,2,3-cd]pyrene	8270C	8	100%
Methane,bis(2-chloroethoxy)-	8270C	9	56%
Naphthalene	8270C	18	100%
Naphthalene,2-chloro-	8270C	13	100%
Phenanthrene	8270C	15	93%
Phenol	8270C	17	100%
Phenol,2,4,5-trichloro-	8270C	17	94%
Phenol,2,4,6-trichloro-	8270C	17	100%
Phenol,2,4-dichloro-	8270C	17	94%
Phenol,2,4-dinitro-	8270C	17	100%
Phenol,2-chloro-	8270C	17	100%
Phenol,o-nitro-	8270C	17	94%
Phenol,pentachloro-	8270C	17	100%
Phenol,p-nitro-	8270C	14	100%
Phthalate, Benzyl Butyl	8270C	14	100%
Phthalate, bis(2-ethylhexyl)-	8270C	17	88%
Phthalate, diethyl-	8270C	11	100%
Phthalate, dimethyl-	8270C	17	100%
Phthalate, di-n-butyl	8270C	6	83%
Phthalate, di-n-octyl	8270C	11	100%
Pyrene	8270C	17	100%
Toluene,2,4-dinitro-	8270C	16	100%
Toluene,2,6-dinitro-	8270C	9	100%
Xylenol,2,4-	8270C	17	100%
OVERALL	**8270C**	**690**	**94%**

Table 4-8
TOTAL PERCENT COMPLETENESS - CONFIRMATORY DATA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

GRAND TOTAL	Total Data Points	Total Rejected	Total % Complete
	34992	82	99.8%

PCB			
Compound	Total Data Points	Total Rejected	% Complete
PCB 1016	701	0	100%
PCB 1221	701	0	100%
PCB 1232	701	0	100%
PCB 1242	701	0	100%
PCB 1248	701	0	100%
PCB 1254	701	5	99%
PCB 1260	701	0	100%
OVERALL	4907	5	100%

METALS			
Compound	Total Data Points	Total Rejected	% Complete
Arsenic	299	0	100%
Barium	298	0	100%
Cadmium	298	0	100%
Chromium	298	0	100%
Copper	298	0	100%
Cyanide	263	1	100%
Lead	298	0	100%
Mercury	298	0	100%
Nickel	298	0	100%
Selenium	298	0	100%
Silver	298	0	100%
Zinc	298	0	100%
OVERALL	3542	1	100%

TPH			
Compound	Total Data Points	Total Rejected	% Complete
TPH	282	2	99%
OVERALL	282	2	99%

Table 4-8
TOTAL PERCENT COMPLETENESS - CONFIRMATORY DATA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

VOC			
Compound	Total Data Points	Total Rejected	% Complete
Acetone	263	0	100%
Benzene	264	0	100%
Benzene,chloro-	264	0	100%
Benzene,ethyl-	263	0	100%
Butanone,2-	264	0	100%
Carbon Disulfide	263	0	100%
Carbon Tetrachloride	264	0	100%
Chloroform	264	0	100%
Ethane,1,1,1-trichloro-	263	0	100%
Ethane,1,1,2,2-tetrachloro-	263	0	100%
Ethane,1,1,2-trichloro-	263	0	100%
Ethane,1,1-dichloro-	263	0	100%
Ethane,1,2-dichloro-	264	0	100%
Ethane,chloro-	263	1	100%
Ethylene,1,1-dichloro-	264	0	100%
Ethylene,chloro-	264	0	100%
Ethylene,tetrachloro-	264	0	100%
Ethylene,trichloro-	264	0	100%
Hexanone,2-	263	0	100%
Methane,bromo-	263	0	100%
Methane,bromodichloro-	263	0	100%
Methane,chloro-	263	0	100%
Methane,dibromochloro-	263	0	100%
Methane,dichloro-	263	0	100%
Methane,tribromo-	263	0	100%
Pentanone,4-methyl-2-	263	0	100%
Propane,1,2-dichloro-	263	0	100%
Propene,1,3-dichloro-, (E)-	263	0	100%
Propene,1,3-dichloro-, (Z)-	263	0	100%
Styrene	263	0	100%
Toluene	263	0	100%
Xylene,o-	263	0	100%
Xylenes,m- & p-	263	0	100%
OVERALL	**8689**	**1**	**100%**

Table 4-8
TOTAL PERCENT COMPLETENESS - CONFIRMATORY DATA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

SVOC			
Compound	Total Data Points	Total Rejected	% Complete
Acenaphthylene	274	0	100%
Acenapthalene	274	0	100%
Aniline,m-nitro-	274	5	98%
Aniline,o-nitro-	274	4	99%
Aniline,p-chloro-	274	3	99%
Aniline,p-nitro-	274	2	99%
Anthracene	274	2	99%
Benz[a]anthracene	274	1	100%
Benz[e]acephenanthrylene	274	1	100%
Benzene,1,2,4-trichloro-	274	0	100%
Benzene,hexachloro-	277	2	99%
Benzene,m-dichloro-	274	0	100%
Benzene,nitro-	277	0	100%
Benzene,o-dichloro-	274	0	100%
Benzene,p-dichloro-	277	0	100%
Benzidine,3,3'-dichloro-	274	2	99%
Benzo[a]pyrene	274	4	99%
Benzo[ghi]perylene	274	4	99%
Benzo[k]fluoranthene	274	3	99%
Butadiene,hexachloro-1,3-	277	0	100%
Carbazole	274	0	100%
Chrysene	274	3	99%
Cresol,4,6-dinitro-o-	274	7	97%
Cresol,4-chloro-m-	274	0	100%
Cresol,m- & p-	277	0	100%
Cresol,o-	277	0	100%
Cyclohexen-1-one,3,5,5-trimethyl-2-	274	0	100%
Cyclopentadiene,1,2,3,4,5,5-hexachloro-1	274	3	99%
Dibenz[a,h]anthracene	274	4	99%
Dibenzofuran	274	0	100%
Diphenylamine,n-nitroso-	274	0	100%
Dipropylamine,n-nitroso-	274	0	100%
Ethane,hexachloro-	277	0	100%
Ether, 4-Bromophenyl Phenyl	274	0	100%
Ether, 4-Chlorophenyl Phenyl	274	0	100%
Ether, bis(2-Chloro-1-methylethyl)	274	3	99%
Ether, bis(2-Chloroethyl)	274	0	100%
Fluoranthene	274	2	99%
Fluorene	274	0	100%
Indeno[1,2,3-cd]pyrene	274	3	99%
Methane,bis(2-chloroethoxy)-	274	0	100%
Naphthalene	274	0	100%
Naphthalene,2-chloro-	274	0	100%
Naphthalene,2-methyl-	274	0	100%
Phenanthrene	274	0	100%
Phenol	274	0	100%
Phenol,2,4,5-trichloro-	277	0	100%
Phenol,2,4,6-trichloro-	277	0	100%
Phenol,2,4-dichloro-	274	0	100%
Phenol,2,4-dinitro-	274	4	99%
Phenol,2-chloro-	274	0	100%
Phenol,o-nitro-	274	0	100%
Phenol,pentachloro-	277	0	100%
Phenol,p-nitro-	274	2	99%
Phthalate, Benzyl Butyl	274	1	100%
Phthalate, bis(2-ethylhexyl)-	274	1	100%
Phthalate, diethyl-	274	0	100%
Phthalate, dimethyl-	274	0	100%
Phthalate, di-n-butyl	274	0	100%
Phthalate, di-n-octyl	274	4	99%
Pyrene	274	1	100%
Pyridine	3	0	100%
Toluene,2,4-dinitro-	277	0	100%
Toluene,2,6-dinitro-	274	0	100%
Xylenol,2,4-	274	0	100%
OVERALL	**17572**	**73**	**100%**

Table 5-1

SUMMARY OF SOIL AND SEDIMENT EXCAVATION BY REMEDIATION AREA

REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Remediation Area 01

Waste Stream	Weight (kg)	Weight (tons)	Actual Volume (yd3)
<50 ppm	-	-	-
>50 ppm	554,397	611	509
	554,397	611	509

Remediation Area 02

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	1,894,370	2,088	1,739
>50 ppm	1,488,227	1,640	1,366
	3,382,597	3,729	3,106

Remediation Area 03

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	1,007,229	1,110	925
>50 ppm	2,894,347	3,190	2,658
	3,901,576	4,301	3,582

Remediation Area 04

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	3,314,454	3,654	3,043
>50 ppm	12,426,464	13,698	11,410
	15,740,918	17,351	14,453

Remediation Area 05

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	-	-	-
>50 ppm	-	-	-
	-	-	-

Table 5-1

SUMMARY OF SOIL AND SEDIMENT EXCAVATION BY REMEDIATION AREA

REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Remediation Area 06

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	-	-	-
>50 ppm	1,607,298	1,772	1,476
	1,607,298	1,772	1,476

Remediation Area 07

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	191,481	211	176
>50 ppm	1,302,774	1,436	1,196
	1,494,255	1,647	1,372

Remediation Area 08

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	567,744	626	521
>50 ppm	1,209,330	1,333	1,110
	1,777,074	1,959	1,632

Remediation Area 09

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	5,101,116	5,623	4,646
>50 ppm	286,556	316	263
	5,387,672	5,939	4,909

Remediation Area 10

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	-	-	-
>50 ppm	1,686,032	1,859	1,548
	1,686,032	1,859	1,548

Table 5-1

SUMMARY OF SOIL AND SEDIMENT EXCAVATION BY REMEDIATION AREA

REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Remediation Area 11

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	-	-	-
>50 ppm	2,317,859	2,555	2,128
	2,317,859	2,555	2,128

Remediation Area 12

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	5,762,136	6,352	5,291
>50 ppm	7,283,621	8,029	6,688
	13,045,757	14,381	11,979

Remediation Area 13

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	930,165	1,025	854
>50 ppm	3,759,784	4,144	3,452
	4,689,949	5,170	4,306

Remediation Area 14

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	1,589,754	1,752	1,460
>50 ppm	-	-	-
	1,589,754	1,752	1,460

Remediation Area 15

Waste Stream	Weight (kg)	Weight (tons)	Volume (yd3)
<50 ppm	3,148,844	3,471	2,891
>50 ppm	189,954	209	174
	3,338,798	3,680	3,066

Totals:	66,706	55,526
Total <50 ppm:	25,912	21,546
Total >50 ppm:	40,793	33,980
Check:	66,706	55,526

Table 6-1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-01-001	2002372	04/11/2002		SS		x	x			X	X	x
WT-CS-01-002	2002373	04/11/2002		SS		x	X			X	X	X
WT-CS-01-003	2002374	04/11/2002		SS		x	X			X	X	X
WT-CS-01-004	2002375	04/11/2002		SS		x	X			X	X	X
WT-CS-02-008	2001193	10/26/2001		SSC						X		
WT-CS-02-009	2001194	10/26/2001		SSC						X		
WT-CS-02-010	2001195	10/26/2001		SSC						X		
WT-CS-02-011	2001196	10/26/2001		SSC						X		
WT-CS-02-012	2001197	10/26/2001		SSC						X		
WT-CS-02-013	2001198	10/26/2001		SSC						X		
WT-CS-02-014	2001199	10/26/2001		SSC						X		
WT-CS-02-014	2001200	10/26/2001		SSC						X		
WT-CS-02-017	2001286	11/09/2001		SSC						X		
WT-CS-02-018	2001287	11/09/2001		SS		x	x			x	X	X
WT-CS-02-019	2001288	11/09/2001		SSC						X		
WT-CS-02-020	2001289	11/09/2001		SS		x	X			X	X	X
WT-CS-02-021	2001290	11/09/2001		SSC						X		
WT-CS-02-022	2001291	11/09/2001		SSC						X		
WT-CS-02-022	2001292	11/09/2001		SSC						X		
WT-CS-02-023	2001293	11/09/2001		SS		x	X			X	X	X
WT-CS-02-024	2001294	11/09/2001		SSC						X		
WT-CS-02-025	2001295	11/09/2001		SS		x	X			X	X	X
WT-CS-02-025	2001296	11/09/2001		SS		x	X			X	X	X
WT-CS-02-026	2001297	11/09/2001		SSC						X		
WT-CS-02-027	2001298	11/09/2001		SS		x	X			X	X	X
WT-CS-02-028	2001299	11/09/2001		SSC						X		
WT-CS-02-029	2001304	11/13/2001		SSC						X		
WT-CS-02-030	2001305	11/13/2001		SS		x	X			X	X	X
WT-CS-02-031	2001306	11/13/2001		SSC						X		
WT-CS-02-031	2001307	11/13/2001		SSC						X		
WT-CS-02-032	2001308	11/13/2001		SS		x	X			X	X	X
WT-CS-02-033	2001367	11/28/2001		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-02-034	2001368	11/28/2001		SS		x	x			x	X	x
WT-CS-02-035	2001369	11/28/2001		SSC						X		
WT-CS-02-036	2001370	11/28/2001		SS		x	X			X	X	X
WT-CS-02-037	2001371	11/28/2001		SSC						x		
WT-CS-02-037	2001372	11/28/2001		SSC						x		
WT-CS-02-038	2001373	11/28/2001		SS		x	x			x	X	x
WT-CS-02-039	2001374	11/28/2001		SSC						x		
WT-CS-02-040	2001375	11/28/2001		SS		x	x			x	X	x
WT-CS-02-041	2001376	11/28/2001		SSC						X		
WT-CS-02-042	2001377	11/28/2001		SS		x	X			x	X	x
WT-CS-02-042	2001378	11/28/2001		SS		x	X			x	X	x
WT-CS-02-051	2001388	11/29/2001		SSC						X		
WT-CS-02-051	2001389	11/29/2001		SSC						X		
WT-CS-02-052	2001390	11/29/2001		SS		x	Xs			X	X	X
WT-CS-02-053	2001391	11/29/2001		SSC						X		
WT-CS-02-054	2001392	11/29/2001		SS		x	X			X	X	x
WT-CS-02-054	2001393	11/29/2001		SS		x	X			x	X	x
WT-CS-02-057	2001396	11/29/2001		SSC						X		
WT-CS-02-058	2001397	11/29/2001		SS		x	X			X	X	X
WT-CS-02-061	2001496	12/12/2001		SS		x	X			x	XS	x
WT-CS-02-062	2001497	12/12/2001		SS		x	X			x	XS	X
WT-CS-02-063	2001498	12/12/2001		SS		x	X			x	XS	x
WT-CS-02-064	2001669	01/10/2002		SS			Xs			X		
WT-CS-02-065	2001670	01/10/2002		SS			x			x		
WT-CS-02-066	2002366	04/09/2002		SSC						X		
WT-CS-02-067	2002367	04/09/2002		SSC						X		
WT-CS-02-068	2002368	04/09/2002		SS		x	X			X	X	X
WT-CS-02-069	2002369	04/09/2002		SSC						X		
WT-CS-02-070	2002370	04/09/2002		SS		x	X			X	X	X
WT-CS-02-071	2002377	04/11/2002		SSC						X		
WT-CS-02-071	2002384	04/11/2002		SS						X		
WT-CS-02-072	2002378	04/11/2002		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

Printed on 09/24/2002

Table 6-1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-02-073	2002379	04/11/2002		SS						x		
WT-CS-02-074	2002380	04/11/2002		SSC						X		
WT-CS-02-075	2002381	04/11/2002		SS						x	x	
WT-CS-02-076	2002382	04/11/2002		SSC						X		
WT-CS-02-077	2002383	04/11/2002		SS						X		
WT-CS-03-003	2001203	10/26/2001		SSC						X		
WT-CS-03-004	2001204	10/26/2001		SSC						x		
WT-CS-03-005	2001205	10/26/2001		SSC						X		
WT-CS-03-006	2001206	10/26/2001		SSC						X		
WT-CS-03-007	2001276	11/09/2001		SSC						x		
WT-CS-03-008	2001277	11/09/2001		SS		x	X			X	X	X
WT-CS-03-009	2001278	11/09/2001		SSC						x		
WT-CS-03-010	2001279	11/09/2001		SS		x	X			x	X	X
WT-CS-03-011	2001280	11/09/2001		SSC						X		
WT-CS-03-012	2001281	11/09/2001		SS		x	X			X	X	X
WT-CS-03-013	2001282	11/09/2001		SSC						x		
WT-CS-03-014	2001283	11/09/2001		SSC						X		
WT-CS-03-015	2001302	11/12/2001		WIPE						X		
WT-CS-03-016	2001303	11/12/2001		WIPE						x		
WT-CS-03-017	2001317	11/15/2001	6	CC						x		
WT-CS-03-018	2001318	11/15/2001	4	CC						X		
WT-CS-03-019	2001322	11/27/2001		SSC						X		
WT-CS-03-020	2001323	11/27/2001		SS		x	x			X	X	x
WT-CS-03-021	2001324	11/27/2001		SSC						X		
WT-CS-03-022	2001325	11/27/2001		SS		x	X			X	X	x
WT-CS-03-023	2001326	11/27/2001		SSC						x		
WT-CS-03-024	2001327	11/27/2001		SS		x	x			X	X	x
WT-CS-03-025	2001328	11/27/2001		SSC						x		
WT-CS-03-026	2001329	11/27/2001		SS		x	x			x	X	x
WT-CS-03-027	2001337	11/27/2001		SSC						x		
WT-CS-03-028	2001338	11/27/2001		SS		x	x			x	X	x
WT-CS-03-029	2001339	11/27/2001		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-03-030	2001340	11/27/2001		SS		x	x			x	X	x
WT-CS-03-031	2001341	11/27/2001		SSC						X		
WT-CS-03-031	2001342	11/27/2001		SSC						X		
WT-CS-03-032	2001343	11/27/2001		SS		x	x			x	X	x
WT-CS-03-033	2001344	11/27/2001		SSC						x		
WT-CS-03-034	2001345	11/27/2001		SS		x	x			x	X	x
WT-CS-03-034	2001356	11/27/2001		SS		x	x			x	X	x
WT-CS-03-037	2001361	11/29/2001		SSC						X		
WT-CS-03-038	2001362	11/29/2001		SS		x	x			X	X	x
WT-CS-03-040	2001364	11/29/2001		SS		x	X			x	X	X
WT-CS-03-041	2001365	11/29/2001		SSC						X		
WT-CS-03-042	2001366	11/29/2001		SS		X z	X			x	X	X
WT-CS-03-043	2001401	11/30/2001		SS			X				XS	
WT-CS-03-044	2001434	12/04/2001		SSC						x		
WT-CS-03-045	2001435	12/04/2001		SS		x	X			x	X	X
WT-CS-03-046	2001436	12/04/2001		SSC						x		
WT-CS-03-047	2001437	12/04/2001		SS		x	x			x	X	x
WT-CS-03-048	2001438	12/04/2001		SS		x	x			x	X	x

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

Printed on 09/24/2002

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-01-001	WT-CS-01-002	WT-CS-01-003	WT-CS-01-004	WT-CS-02-008	WT-CS-02-009	WT-CS-02-010
	Sample ID	2002372	2002373	2002374	2002375	2001193	2001194	2001195
	Sample Date	04/11/2002	04/11/2002	04/11/2002	04/11/2002	10/26/2001	10/26/2001	10/26/2001
	Sample Time	10:00	10:05	10:15	10:25	10:55	11:00	11:05
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E204503-1A	E204503-2A	E204503-3A	E204503-4A	E110C69-8	E110C69-9	E110C69-10
Constituent	Units							
Date PCBs Analyzed	-	04/11/2002	04/12/2002	04/11/2002	04/12/2002	10/28/2001	10/28/2001	10/28/2001
Date Metals Analyzed	-	04/16/2002	04/16/2002	04/16/2002	04/16/2002			
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-		04/12/2002	04/12/2002	04/12/2002			
Date Semi-volatile Organics Analyzed	-		04/16/2002	04/15/2002	04/15/2002			
Arsenic	mg/kg	1.6	2.2	4.3	3.0			
Barium	mg/kg	11	34	51	39			
Barium (SPLP)	mg/L							
Cadmium	mg/kg		5.9	8.9	2.7			
Chromium, Total	mg/kg	6.4	130	210	78			
Copper	mg/kg	5.5	54	75	40			
Lead	mg/kg	2.3	74	140	51			
Mercury	mg/kg		0.76	0.44	0.26			
Nickel	mg/kg	14	140	140	57			
Silver	mg/kg		3.5	4.5	1.5			
Zinc	mg/kg	11	65	90	50			
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg		110000					
PCB-1254 (Arochlor 1254)	ug/kg	120 J	110000	17000	4800	1200	140	1000
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg		1.7					
Total Petroleum Hydrocarbons EPA 418.1	mg/kg		22000	740	450			
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg		760					
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg		1700	740	690			

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-01-001	WT-CS-01-002	WT-CS-01-003	WT-CS-01-004	WT-CS-02-008	WT-CS-02-009	WT-CS-02-010
	Sample ID	2002372	2002373	2002374	2002375	2001193	2001194	2001195
	Sample Date	04/11/2002	04/11/2002	04/11/2002	04/11/2002	10/26/2001	10/26/2001	10/26/2001
	Sample Time	10:00	10:05	10:15	10:25	10:55	11:00	11:05
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E204503-1A	E204503-2A	E204503-3A	E204503-4A	E110C69-8	E110C69-9	E110C69-10
Constituent	Units							
Benzo(b)fluoranthene	ug/kg		1200	1200	1000			
Benzo(a)pyrene	ug/kg		1300	790	730			
Benzo(g,h,i)perylene	ug/kg			360	270			
Benzo(k)fluoranthene	ug/kg		1300	420	400			
Carbazole	ug/kg							
Chrysene	ug/kg		2100	880	730			
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg		6300	1600	1500			
Fluorene	ug/kg		1000					
Indeno(1,2,3-c,d)pyrene	ug/kg			330	270			
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg		1000	810	690			
bis(2-Ethylhexyl) Phthalate	ug/kg		4400					
Pyrene	ug/kg		7700	1200	1100			
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-011	WT-CS-02-012	WT-CS-02-013	WT-CS-02-014	WT-CS-02-014	WT-CS-02-017	WT-CS-02-017
	Sample ID	2001196	2001197	2001198	2001199	2001200	2001286	2001286
	Sample Date	10/26/2001	10/26/2001	10/26/2001	10/26/2001	10/26/2001	11/09/2001	11/09/2001
	Sample Time	11:25	11:35	12:15	12:30	12:30	15:00	15:00
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110C69-11	E110C69-12	E110C69-13	E110C69-14	E110C69-15	E111435-11	E111660-11
Constituent	Units							
Date PCBs Analyzed	-	10/28/2001	10/28/2001	10/28/2001	10/28/2001	10/29/2001	11/10/2001	11/16/2001
Date Metals Analyzed	-							
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg							
Barium	mg/kg							
Barium (SPLP)	mg/L							
Cadmium	mg/kg							
Chromium, Total	mg/kg							
Copper	mg/kg							
Lead	mg/kg							
Mercury	mg/kg							
Nickel	mg/kg							
Silver	mg/kg							
Zinc	mg/kg							
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	370	6800	100	65 J	22 J	1500 J	1500
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-011	WT-CS-02-012	WT-CS-02-013	WT-CS-02-014	WT-CS-02-014	WT-CS-02-017	WT-CS-02-017
	Sample ID	2001196	2001197	2001198	2001199	2001200	2001286	2001286
	Sample Date	10/26/2001	10/26/2001	10/26/2001	10/26/2001	10/26/2001	11/09/2001	11/09/2001
	Sample Time	11:25	11:35	12:15	12:30	12:30	15:00	15:00
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110C69-11	E110C69-12	E110C69-13	E110C69-14	E110C69-15	E111435-11	E111660-11
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-018	WT-CS-02-019	WT-CS-02-019	WT-CS-02-020	WT-CS-02-020	WT-CS-02-021	WT-CS-02-021
	Sample ID	2001287	2001288	2001288	2001289	2001289	2001290	2001290
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	15:00	15:10	15:10	15:10	15:10	15:15	15:15
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111435-12A	E111435-13	E111660-13	E111435-14A	E111660-14	E111435-15	E111660-15
Constituent	Units							
Date PCBs Analyzed	-		11/11/2001	11/16/2001	11/10/2001	11/16/2001	11/11/2001	11/16/2001
Date Metals Analyzed	-	11/13/2001			11/13/2001			
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-	11/13/2001			11/13/2001			
Date Semi-volatile Organics Analyzed	-				11/13/2001			
Arsenic	mg/kg	2.4			1.1			
Barium	mg/kg	41			31			
Barium (SPLP)	mg/L							
Cadmium	mg/kg				0.74			
Chromium, Total	mg/kg	13			34			
Copper	mg/kg	9.9			11			
Lead	mg/kg	20			21			
Mercury	mg/kg	0.11			0.10			
Nickel	mg/kg	9.4			31			
Silver	mg/kg							
Zinc	mg/kg	33			28			
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg		6000 J	4000	2000 J	1600	3600 J	3700
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	540			520			
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-018	WT-CS-02-019	WT-CS-02-019	WT-CS-02-020	WT-CS-02-020	WT-CS-02-021	WT-CS-02-021
	Sample ID	2001287	2001288	2001288	2001289	2001289	2001290	2001290
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	15:00	15:10	15:10	15:10	15:10	15:15	15:15
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111435-12A	E111435-13	E111660-13	E111435-14A	E111660-14	E111435-15	E111660-15
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg				240			
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg				480			
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg				290			
bis(2-Ethylhexyl) Phthalate	ug/kg				220			
Pyrene	ug/kg				420			
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-022	WT-CS-02-022	WT-CS-02-022	WT-CS-02-022	WT-CS-02-023	WT-CS-02-023	WT-CS-02-024
	Sample ID	2001291	2001291	2001292	2001292	2001293	2001293	2001294
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	15:15	15:15	15:20	15:20	15:25	15:25	15:30
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111435-16	E111660-16	E111435-17	E111660-17	E111435-18A	E111660-18	E111435-19
Constituent	Units							
Date PCBs Analyzed	-	11/10/2001	11/20/2001	11/10/2001	11/16/2001	11/11/2001	11/16/2001	11/11/2001
Date Metals Analyzed	-					11/13/2001		
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-					11/13/2001		
Date Semi-volatile Organics Analyzed	-					11/13/2001		
Arsenic	mg/kg							
Barium	mg/kg					20		
Barium (SPLP)	mg/L							
Cadmium	mg/kg							
Chromium, Total	mg/kg					7.8		
Copper	mg/kg					12		
Lead	mg/kg					13		
Mercury	mg/kg					0.072		
Nickel	mg/kg					8.2		
Silver	mg/kg							
Zinc	mg/kg					24		
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	920 J	1600 J	560 J	470 J	80 J	170	18000 J
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg					480		
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg					760		
Benzo(a)anthracene	ug/kg					2000		

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-022	WT-CS-02-022	WT-CS-02-022	WT-CS-02-022	WT-CS-02-023	WT-CS-02-023	WT-CS-02-024
	Sample ID	2001291	2001291	2001292	2001292	2001293	2001293	2001294
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	15:15	15:15	15:20	15:20	15:25	15:25	15:30
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111435-16	E111660-16	E111435-17	E111660-17	E111435-18A	E111660-18	E111435-19
Constituent	Units							
Benzo(b)fluoranthene	ug/kg					1600		
Benzo(a)pyrene	ug/kg					1400		
Benzo(g,h,i)perylene	ug/kg					310		
Benzo(k)fluoranthene	ug/kg					1200		
Carbazole	ug/kg					380		
Chrysene	ug/kg					2100		
Dibenz(a,h)anthracene	ug/kg					220		
Fluoranthene	ug/kg					3600		
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg					370		
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg					1600		
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg					3300		
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-024	WT-CS-02-025	WT-CS-02-025	WT-CS-02-025	WT-CS-02-025	WT-CS-02-026	WT-CS-02-026
	Sample ID	2001294	2001295	2001295	2001296	2001296	2001297	2001297
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	15:30	15:30	15:30	15:40	15:40	15:40	15:40
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111660-19	E111435-20A	E111660-20	E111435-21A	E111660-21	E111435-22	E111660-22
Constituent	Units							
Date PCBs Analyzed	-	11/16/2001	11/11/2001	11/17/2001	11/11/2001	11/17/2001	11/11/2001	11/20/2001
Date Metals Analyzed	-		11/13/2001		11/13/2001			
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-		11/13/2001		11/13/2001			
Date Semi-volatile Organics Analyzed	-		11/13/2001		11/13/2001			
Arsenic	mg/kg		0.68					
Barium	mg/kg		28		18			
Barium (SPLP)	mg/L							
Cadmium	mg/kg		3.5		3.0			
Chromium, Total	mg/kg		73		55			
Copper	mg/kg		31		24			
Lead	mg/kg		44		35			
Mercury	mg/kg		0.20		0.46			
Nickel	mg/kg		88		68			
Silver	mg/kg		2.6		2.7			
Zinc	mg/kg		58		59			
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	19000	47000 J	36000 J	12000 J	9300 J	20000 J	46000
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg		2.6					
Total Petroleum Hydrocarbons EPA 418.1	mg/kg		920		3000			
Acenaphthylene	ug/kg		200		180			
Acenaphthene	ug/kg				300			
Anthracene	ug/kg		200		220			
Benzo(a)anthracene	ug/kg		860		940			

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-024	WT-CS-02-025	WT-CS-02-025	WT-CS-02-025	WT-CS-02-025	WT-CS-02-026	WT-CS-02-026
	Sample ID	2001294	2001295	2001295	2001296	2001296	2001297	2001297
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	15:30	15:30	15:30	15:40	15:40	15:40	15:40
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111660-19	E111435-20A	E111660-20	E111435-21A	E111660-21	E111435-22	E111660-22
Constituent	Units							
Benzo(b)fluoranthene	ug/kg		910		900			
Benzo(a)pyrene	ug/kg		980		1000			
Benzo(g,h,i)perylene	ug/kg		340		330			
Benzo(k)fluoranthene	ug/kg		920		990			
Carbazole	ug/kg							
Chrysene	ug/kg		1000		1100			
Dibenz(a,h)anthracene	ug/kg		180		180			
Fluoranthene	ug/kg		2100		2200			
Fluorene	ug/kg		180		280			
Indeno(1,2,3-c,d)pyrene	ug/kg		380		370			
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg		730		840			
bis(2-Ethylhexyl) Phthalate	ug/kg		290		650			
Pyrene	ug/kg		1800		2000			
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-027	WT-CS-02-027	WT-CS-02-028	WT-CS-02-028	WT-CS-02-029	WT-CS-02-030	WT-CS-02-031
	Sample ID	2001298	2001298	2001299	2001299	2001304	2001305	2001306
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/13/2001	11/13/2001	11/13/2001
	Sample Time	15:45	15:45	15:45	15:45	18:30	18:35	18:45
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111435-23A	E111660-23	E111435-24	E111660-24	E111539-1	E111539-2A	E111539-3
Constituent	Units							
Date PCBs Analyzed	-	11/09/2001	11/17/2001	11/09/2001	11/17/2001	11/14/2001	11/14/2001	11/14/2001
Date Metals Analyzed	-	11/13/2001					11/15/2001	
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-	11/13/2001					11/16/2001	
Date Semi-volatile Organics Analyzed	-	11/13/2001					11/15/2001	
Arsenic	mg/kg	0.96					2.7	
Barium	mg/kg	26					42	
Barium (SPLP)	mg/L							
Cadmium	mg/kg	0.29					5.9	
Chromium, Total	mg/kg	33					160	
Copper	mg/kg	16					35	
Lead	mg/kg	30					50	
Mercury	mg/kg	0.088					0.18	
Nickel	mg/kg	24					160	
Silver	mg/kg	0.21					1.3	
Zinc	mg/kg	34					46	
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	1400 J	2200	680 J	710	10000	17000	2400
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	650					550	
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg	180						
Anthracene	ug/kg	370						
Benzo(a)anthracene	ug/kg	970						

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-027	WT-CS-02-027	WT-CS-02-028	WT-CS-02-028	WT-CS-02-029	WT-CS-02-030	WT-CS-02-031
	Sample ID	2001298	2001298	2001299	2001299	2001304	2001305	2001306
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/13/2001	11/13/2001	11/13/2001
	Sample Time	15:45	15:45	15:45	15:45	18:30	18:35	18:45
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111435-23A	E111660-23	E111435-24	E111660-24	E111539-1	E111539-2A	E111539-3
Constituent	Units							
Benzo(b)fluoranthene	ug/kg	800					210	
Benzo(a)pyrene	ug/kg	800					210	
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg	860						
Carbazole	ug/kg	370						
Chrysene	ug/kg	1000					220	
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg	1900						
Fluorene	ug/kg	180						
Indeno(1,2,3-c,d)pyrene	ug/kg	200						
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg	1100						
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg	1600					270	
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-031	WT-CS-02-032	WT-CS-02-034	WT-CS-02-035	WT-CS-02-036	WT-CS-02-038	WT-CS-02-040
	Sample ID	2001307	2001308	2001368	2001369	2001370	2001373	2001375
	Sample Date	11/13/2001	11/13/2001	11/28/2001	11/28/2001	11/28/2001	11/28/2001	11/28/2001
	Sample Time	18:50	18:45	11:50	11:55	12:00	12:15	12:20
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111539-4	E111539-5A	E111B35-2A	E111B35-3	E111B35-4A	E111B35-7A	E111B35-9A
Constituent	Units							
Date PCBs Analyzed	-	11/14/2001	11/14/2001		11/28/2001	11/28/2001		
Date Metals Analyzed	-		11/15/2001	12/03/2001		12/03/2001	12/03/2001	12/03/2001
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-		11/16/2001			11/29/2001		
Date Semi-volatile Organics Analyzed	-		11/15/2001			11/30/2001		
Arsenic	**mg/kg**		2.0					
Barium	**mg/kg**		39	18		23	12	17
Barium (SPLP)	**mg/L**							
Cadmium	mg/kg		6.1					
Chromium, Total	mg/kg		150	12		12	7.8	7.4
Copper	mg/kg		34	6.8		7.9	3.2	2.6
Lead	mg/kg		45	5.9		3.8	2.9	3.1
Mercury	mg/kg		0.22					
Nickel	mg/kg		160	11		26	9.0	7.6
Silver	mg/kg		1.2					
Zinc	mg/kg		41	12 J		17 J	12 J	13 J
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	1900	17000		330	810		
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg		1500			380		
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-031	WT-CS-02-032	WT-CS-02-034	WT-CS-02-035	WT-CS-02-036	WT-CS-02-038	WT-CS-02-040
	Sample ID	2001307	2001308	2001368	2001369	2001370	2001373	2001375
	Sample Date	11/13/2001	11/13/2001	11/28/2001	11/28/2001	11/28/2001	11/28/2001	11/28/2001
	Sample Time	18:50	18:45	11:50	11:55	12:00	12:15	12:20
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111539-4	E111539-5A	E111B35-2A	E111B35-3	E111B35-4A	E111B35-7A	E111B35-9A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg		220					
bis(2-Ethylhexyl) Phthalate	ug/kg		290			250		
Pyrene	ug/kg		280					
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-041	WT-CS-02-042	WT-CS-02-042	WT-CS-02-051	WT-CS-02-051	WT-CS-02-052	WT-CS-02-053
	Sample ID	2001376	2001377	2001378	2001388	2001389	2001390	2001391
	Sample Date	11/28/2001	11/28/2001	11/28/2001	11/29/2001	11/29/2001	11/29/2001	11/29/2001
	Sample Time	12:25	12:28	12:30	09:47	09:52	09:55	10:00
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111B35-10	E111B35-11A	E111B35-12A	E111C70-2	E111C70-3	E111C63-2A	E111C70-4
Constituent	Units							
Date PCBs Analyzed	-	11/29/2001			12/03/2001	11/30/2001	12/03/2001	11/30/2001
Date Metals Analyzed	-		12/03/2001	12/03/2001			12/04/2001	
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-						11/30/2001	
Date Semi-volatile Organics Analyzed	-		11/30/2001	11/30/2001			12/04/2001	
Arsenic	mg/kg		2.5	1.7			3.1	
Barium	mg/kg		30	30			33	
Barium (SPLP)	mg/L							
Cadmium	mg/kg		0.16	0.24			2.4	
Chromium, Total	mg/kg		7.6	7.8			67 J	
Copper	mg/kg		22 J	12 J			24 J	
Lead	mg/kg		22	25			60 J	
Mercury	mg/kg		0.045	0.048			0.30	
Nickel	mg/kg		8.0	8.0			55 J	
Silver	mg/kg						1.0	
Zinc	mg/kg		70 J	62 J			35	
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	140			8100	5000	16000	160
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg						110 J	
Acenaphthylene	ug/kg		380					
Acenaphthene	ug/kg			880 J				
Anthracene	ug/kg		370 J	1700 J			320	
Benzo(a)anthracene	ug/kg		1100 J	2500 J			1500	

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-041	WT-CS-02-042	WT-CS-02-042	WT-CS-02-051	WT-CS-02-051	WT-CS-02-052	WT-CS-02-053
	Sample ID	2001376	2001377	2001378	2001388	2001389	2001390	2001391
	Sample Date	11/28/2001	11/28/2001	11/28/2001	11/29/2001	11/29/2001	11/29/2001	11/29/2001
	Sample Time	12:25	12:28	12:30	09:47	09:52	09:55	10:00
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111B35-10	E111B35-11A	E111B35-12A	E111C70-2	E111C70-3	E111C63-2A	E111C70-4
Constituent	Units							
Benzo(b)fluoranthene	ug/kg		1500 J	3100 J			2600	
Benzo(a)pyrene	ug/kg		1300 J	2400 J			1600	
Benzo(g,h,i)perylene	ug/kg		730	920			480	
Benzo(k)fluoranthene	ug/kg		1200	1200			770	
Carbazole	ug/kg		260 J	990 J				
Chrysene	ug/kg		1500 J	2700 J			1500	
Dibenz(a,h)anthracene	ug/kg		280					
Fluoranthene	ug/kg		2600 J	7000 J			2900	
Fluorene	ug/kg		250 J	1000 J				
Indeno(1,2,3-c,d)pyrene	ug/kg		640	860			440	
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg		1900 J	7500 J			1500	
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg		3000 J	5800 J			2400	
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg			440				

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	WT-CS-02-057	WT-CS-02-058	WT-CS-02-061	WT-CS-02-062	WT-CS-02-063
	Sample ID	2001392	2001393	2001396	2001397	2001496	2001497	2001498
	Sample Date	11/29/2001	11/29/2001	11/29/2001	11/29/2001	12/12/2001	12/12/2001	12/12/2001
	Sample Time	10:05	10:10	10:20	10:30	15:12	15:20	15:26
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111C63-3A	E111C63-4A	E111C70-6	E111C63-6A	E112489-3A	E112489-4A	E112489-5A
Constituent	Units							
Date PCBs Analyzed	-	12/03/2001		12/03/2001	11/30/2001			
Date Metals Analyzed	-	12/04/2001	12/04/2001		12/04/2001	12/14/2001	12/14/2001	12/14/2001
Date of Metals SPLP Analysis	-					12/14/2001	12/14/2001	12/14/2001
Date Organics Analyzed	-							
Date Physical Analyzed	-				11/30/2001		12/15/2001	
Date Semi-volatile Organics Analyzed	-	12/03/2001	12/03/2001		12/03/2001	12/14/2001	12/14/2001	12/14/2001
Arsenic	mg/kg	1.6	1.7		0.66	2.3	2.1	1.8
Barium	mg/kg	28	26		14	21 J	31 J	120 J
Barium (SPLP)	mg/L					3.2	3.1	3.5
Cadmium	mg/kg	0.21 J	0.59 J				18	1.2
Chromium, Total	mg/kg	7.6 J	8.4 J		5.8 J	6.5	48	10
Copper	mg/kg	4.9 J	5.8 J		9.7 J	7.0	27	16
Lead	mg/kg	26 J	34 J		14 J	13	120	70
Mercury	mg/kg	0.074	0.064		0.10	0.044	0.085	0.078
Nickel	mg/kg	6.6 J	7.0 J		7.7 J	6.4	10	8.0
Silver	mg/kg						1.5	0.19
Zinc	mg/kg	22	25		21	20	35	200
Zinc (SPLP)	mg/L					3.3	3.3	3.6
PCB-1242 (Arochlor 1242)	ug/kg	380 J						
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg			330				
PCB-1260 (Arochlor 1260)	ug/kg				190			
Cyanide	mg/kg						1.2	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg				450 J			
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg		190					
Benzo(a)anthracene	ug/kg		380 J		310	270	390	

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-054	WT-CS-02-054	WT-CS-02-057	WT-CS-02-058	WT-CS-02-061	WT-CS-02-062	WT-CS-02-063
	Sample ID	2001392	2001393	2001396	2001397	2001496	2001497	2001498
	Sample Date	11/29/2001	11/29/2001	11/29/2001	11/29/2001	12/12/2001	12/12/2001	12/12/2001
	Sample Time	10:05	10:10	10:20	10:30	15:12	15:20	15:26
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111C63-3A	E111C63-4A	E111C70-6	E111C63-6A	E112489-3A	E112489-4A	E112489-5A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg		230		260	210	370	
Benzo(a)pyrene	ug/kg		290		290	240	400	
Benzo(g,h,i)perylene	ug/kg				170		260	
Benzo(k)fluoranthene	ug/kg		290		290	200	340	
Carbazole	ug/kg							
Chrysene	ug/kg		350		310	270	460	
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg	310 J	820 J		670	600	830	210
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg						240	
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg	190 J	660 J		440	560	440	
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg	250 J	660 J		550	490	710	190
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-064	WT-CS-02-066	WT-CS-02-067	WT-CS-02-068	WT-CS-02-069	WT-CS-02-070	WT-CS-02-071
	Sample ID	2001669	2002366	2002367	2002368	2002369	2002370	2002377
	Sample Date	01/10/2002	04/09/2002	04/09/2002	04/09/2002	04/09/2002	04/09/2002	04/11/2002
	Sample Time	12:50	15:00	15:10	15:15	15:20	15:25	15:15
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E201358-5	E204450-1	E204450-2	E204450-3A	E204450-4	E204450-5A	E204529-1
Constituent	Units							
Date PCBs Analyzed	-	01/10/2002	04/11/2002	04/11/2002	04/11/2002	04/11/2002	04/11/2002	04/12/2002
Date Metals Analyzed	-				04/12/2002		04/12/2002	
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-				04/11/2002		04/11/2002	
Date Semi-volatile Organics Analyzed	-	01/14/2002			04/15/2002		04/16/2002	
Arsenic	mg/kg				5.2		14	
Barium	mg/kg				320 J		480 J	
Barium (SPLP)	mg/L							
Cadmium	mg/kg				45		100	
Chromium, Total	mg/kg				1000 J		3100 J	
Copper	mg/kg				300 J		2700 J	
Lead	mg/kg				490 J		980 J	
Mercury	mg/kg				4.6 J		13 J	
Nickel	mg/kg				1400 J		1900 J	
Silver	mg/kg				33		99	
Zinc	mg/kg				330 J		790 J	
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg		530	150000		84000	98000	
PCB-1254 (Arochlor 1254)	ug/kg	1400	460	120000	58000	64000	64000	200
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg				9.3 J		11 J	
Total Petroleum Hydrocarbons EPA 418.1	mg/kg				82000 J		51000 J	
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg						9700	
Anthracene	ug/kg	370					17000	
Benzo(a)anthracene	ug/kg	1000					40000	

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-064	WT-CS-02-066	WT-CS-02-067	WT-CS-02-068	WT-CS-02-069	WT-CS-02-070	WT-CS-02-071
	Sample ID	2001669	2002366	2002367	2002368	2002369	2002370	2002377
	Sample Date	01/10/2002	04/09/2002	04/09/2002	04/09/2002	04/09/2002	04/09/2002	04/11/2002
	Sample Time	12:50	15:00	15:10	15:15	15:20	15:25	15:15
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E201358-5	E204450-1	E204450-2	E204450-3A	E204450-4	E204450-5A	E204529-1
Constituent	Units							
Benzo(b)fluoranthene	ug/kg	1000					47000	
Benzo(a)pyrene	ug/kg	1000					30000	
Benzo(g,h,i)perylene	ug/kg	450					8800	
Benzo(k)fluoranthene	ug/kg	950					14000	
Carbazole	ug/kg	270					7800	
Chrysene	ug/kg	1100			2400		43000	
Dibenz(a,h)anthracene	ug/kg	200						
Fluoranthene	ug/kg	2400			5400		100000	
Fluorene	ug/kg						11000	
Indeno(1,2,3-c,d)pyrene	ug/kg	430					9400	
2-Methylnaphthalene	ug/kg				3800			
Phenanthrene	ug/kg	1500			4800		82000	
bis(2-Ethylhexyl) Phthalate	ug/kg				8000		14000	
Pyrene	ug/kg	1900			4400		76000	
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-071	WT-CS-02-072	WT-CS-02-074	WT-CS-02-076	WT-CS-02-077	WT-CS-03-003	WT-CS-03-005
	Sample ID	2002384	2002378	2002380	2002382	2002383	2001203	2001205
	Sample Date	04/11/2002	04/11/2002	04/11/2002	04/11/2002	04/11/2002	10/26/2001	10/26/2001
	Sample Time	15:50	15:20	15:30	15:40	15:45	12:50	13:15
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E204529-8	E204529-2	E204529-4	E204529-6	E204529-7	E110C69-18	E110C69-20
Constituent	Units							
Date PCBs Analyzed	-	04/12/2002	04/12/2002	04/12/2002	04/12/2002	04/12/2002	10/29/2001	10/29/2001
Date Metals Analyzed	-							
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg							
Barium	mg/kg							
Barium (SPLP)	mg/L							
Cadmium	mg/kg							
Chromium, Total	mg/kg							
Copper	mg/kg							
Lead	mg/kg							
Mercury	mg/kg							
Nickel	mg/kg							
Silver	mg/kg							
Zinc	mg/kg							
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	180	380	2200	18000	16000	220	300
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-02-071	WT-CS-02-072	WT-CS-02-074	WT-CS-02-076	WT-CS-02-077	WT-CS-03-003	WT-CS-03-005
	Sample ID	2002384	2002378	2002380	2002382	2002383	2001203	2001205
	Sample Date	04/11/2002	04/11/2002	04/11/2002	04/11/2002	04/11/2002	10/26/2001	10/26/2001
	Sample Time	15:50	15:20	15:30	15:40	15:45	12:50	13:15
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E204529-8	E204529-2	E204529-4	E204529-6	E204529-7	E110C69-18	E110C69-20
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-006	WT-CS-03-008	WT-CS-03-008	WT-CS-03-010	WT-CS-03-011	WT-CS-03-011	WT-CS-03-012
	Sample ID	2001206	2001277	2001277	2001279	2001280	2001280	2001281
	Sample Date	10/26/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	13:35	14:20	14:20	14:25	14:35	14:35	14:35
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110C69-21	E111435-2A	E111660-2	E111435-4A	E111435-5	E111660-5	E111435-6A
Constituent	Units							
Date PCBs Analyzed	-	10/29/2001	11/11/2001	11/15/2001		11/11/2001	11/15/2001	11/11/2001
Date Metals Analyzed	-		11/13/2001		11/13/2001			11/13/2001
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-		11/13/2001		11/13/2001			11/13/2001
Date Semi-volatile Organics Analyzed	-		11/13/2001		11/13/2001			11/13/2001
Arsenic	mg/kg		2.3		1.6			3.0
Barium	mg/kg		44		56			40
Barium (SPLP)	mg/L							
Cadmium	mg/kg							
Chromium, Total	mg/kg		14		11			11
Copper	mg/kg		16		14			8.6
Lead	mg/kg		27		30			20
Mercury	mg/kg		0.15		0.13			0.14
Nickel	mg/kg		13		8.9			8.2
Silver	mg/kg		0.28					
Zinc	mg/kg		37		38			30
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	50	85 J	320		11000 J	7600	68 J
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg		520		380			920
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							330

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-006	WT-CS-03-008	WT-CS-03-008	WT-CS-03-010	WT-CS-03-011	WT-CS-03-011	WT-CS-03-012
	Sample ID	2001206	2001277	2001277	2001279	2001280	2001280	2001281
	Sample Date	10/26/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001	11/09/2001
	Sample Time	13:35	14:20	14:20	14:25	14:35	14:35	14:35
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110C69-21	E111435-2A	E111660-2	E111435-4A	E111435-5	E111660-5	E111435-6A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							280
Benzo(a)pyrene	ug/kg							300
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							240
Carbazole	ug/kg							
Chrysene	ug/kg							370
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg		300		260			760
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							500
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg		260		230			650
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-012	WT-CS-03-014	WT-CS-03-014	WT-CS-03-015	WT-CS-03-018	WT-CS-03-019	WT-CS-03-020
	Sample ID	2001281	2001283	2001283	2001302	2001318	2001322	2001323
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/12/2001	11/15/2001	11/27/2001	11/27/2001
	Sample Time	14:35	14:45	14:45	14:30	09:15	13:00	13:05
	Sample Depth					4'		
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111660-6	E111435-8	E111660-8	E111467-1	E111658-2	E111A64-1	E111A64-2A
Constituent	Units							
Date PCBs Analyzed	-	11/15/2001	11/11/2001	11/16/2001	11/12/2001	11/15/2001	11/27/2001	11/27/2001
Date Metals Analyzed	-							11/29/2001
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg							
Barium	mg/kg							16
Barium (SPLP)	mg/L							
Cadmium	mg/kg							
Chromium, Total	mg/kg							11
Copper	mg/kg							1.5
Lead	mg/kg							2.8
Mercury	mg/kg							
Nickel	mg/kg							10
Silver	mg/kg							
Zinc	mg/kg							15
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	120	380 J	650	460	79	450	270
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-012	WT-CS-03-014	WT-CS-03-014	WT-CS-03-015	WT-CS-03-018	WT-CS-03-019	WT-CS-03-020
	Sample ID	2001281	2001283	2001283	2001302	2001318	2001322	2001323
	Sample Date	11/09/2001	11/09/2001	11/09/2001	11/12/2001	11/15/2001	11/27/2001	11/27/2001
	Sample Time	14:35	14:45	14:45	14:30	09:15	13:00	13:05
	Sample Depth					4'		
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111660-6	E111435-8	E111660-8	E111467-1	E111658-2	E111A64-1	E111A64-2A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-021	WT-CS-03-022	WT-CS-03-024	WT-CS-03-026	WT-CS-03-028	WT-CS-03-029	WT-CS-03-030
	Sample ID	2001324	2001325	2001327	2001329	2001338	2001339	2001340
	Sample Date	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001
	Sample Time	13:10	13:15	13:25	13:35	15:35	15:40	15:45
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111A64-3	E111A64-4A	E111A64-6A	E111A64-8A	E111A87-2A	E111A87-3	E111A87-4A
Constituent	Units							
Date PCBs Analyzed	-	11/27/2001	11/27/2001	11/27/2001			11/28/2001	
Date Metals Analyzed	-		11/29/2001	11/29/2001	11/29/2001	11/29/2001		11/29/2001
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-		11/30/2001					
Arsenic	mg/kg		1.5					
Barium	mg/kg		32	14	13	14		26
Barium (SPLP)	mg/L							
Cadmium	mg/kg		12			0.20		
Chromium, Total	mg/kg		33	5.4	7.0	4.2		5.2
Copper	mg/kg		19	0.96	2.7	1.5		5.2
Lead	mg/kg		99	1.7	3.2	2.7		27
Mercury	mg/kg		0.053 J					0.077
Nickel	mg/kg		10	4.7	6.6	2.8		5.7
Silver	mg/kg		0.90			0.32		
Zinc	mg/kg		120	8.7	10	4.3 J		30 J
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	74	360	310			320	
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-021	WT-CS-03-022	WT-CS-03-024	WT-CS-03-026	WT-CS-03-028	WT-CS-03-029	WT-CS-03-030
	Sample ID	2001324	2001325	2001327	2001329	2001338	2001339	2001340
	Sample Date	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001
	Sample Time	13:10	13:15	13:25	13:35	15:35	15:40	15:45
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111A64-3	E111A64-4A	E111A64-6A	E111A64-8A	E111A87-2A	E111A87-3	E111A87-4A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg		280					
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg		270					
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-031	WT-CS-03-031	WT-CS-03-032	WT-CS-03-034	WT-CS-03-034	WT-CS-03-037	WT-CS-03-038
	Sample ID	2001341	2001342	2001343	2001345	2001356	2001361	2001362
	Sample Date	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/29/2001	11/29/2001
	Sample Time	15:50	15:50	15:55	16:05	16:10	09:42	09:45
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111A87-5	E111A87-6	E111A87-7A	E111A87-9A	E111A87-10A	E111C12-3	E111C12-4A
Constituent	Units							
Date PCBs Analyzed	-	11/28/2001	11/28/2001				11/30/2001	11/30/2001
Date Metals Analyzed	-			11/29/2001	11/29/2001	11/29/2001		12/04/2001
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	**mg/kg**				0.93	1.1		1.4
Barium	**mg/kg**			18	46	51		20 J
Barium (SPLP)	**mg/L**							
Cadmium	**mg/kg**			0.24	0.44 J	2.5 J		
Chromium, Total	mg/kg			5.1	6.8	7.3		7.1 J
Copper	mg/kg			3.3	6.7	8.5		12
Lead	mg/kg			5.0	44	72		8.2 J
Mercury	mg/kg				0.17	0.18		0.036
Nickel	mg/kg			7.0	6.8	7.0		9.1 J
Silver	mg/kg							
Zinc	mg/kg			58 J	50 J	38 J		21
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	160	180				470	280
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-031	WT-CS-03-031	WT-CS-03-032	WT-CS-03-034	WT-CS-03-034	WT-CS-03-037	WT-CS-03-038
	Sample ID	2001341	2001342	2001343	2001345	2001356	2001361	2001362
	Sample Date	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/27/2001	11/29/2001	11/29/2001
	Sample Time	15:50	15:50	15:55	16:05	16:10	09:42	09:45
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111A87-5	E111A87-6	E111A87-7A	E111A87-9A	E111A87-10A	E111C12-3	E111C12-4A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-040	WT-CS-03-041	WT-CS-03-042	WT-CS-03-042	WT-CS-03-043	WT-CS-03-043	WT-CS-03-045
	Sample ID	2001364	2001365	2001366	2001366	2001401	2001401	2001435
	Sample Date	11/29/2001	11/29/2001	11/29/2001	11/29/2001	11/30/2001	11/30/2001	12/04/2001
	Sample Time	09:52	10:57	11:05	11:05	10:50	10:50	09:55
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111C12-6A	E111C12-7	E111C12-8A	E111C12-8B	E111C58-1A	E112485-1	E112079-2A
Constituent	Units							
Date PCBs Analyzed	-		11/29/2001					
Date Metals Analyzed	-	12/04/2001		12/04/2001		12/04/2001		12/05/2001
Date of Metals SPLP Analysis	-						12/14/2001	
Date Organics Analyzed	-				11/30/2001			
Date Physical Analyzed	-	12/01/2001		11/30/2001				12/05/2001
Date Semi-volatile Organics Analyzed	-	11/30/2001		12/04/2001		12/04/2001		12/06/2001
Arsenic	mg/kg	2.2		4.8		25		0.83
Barium	mg/kg	30 J		45 J		63		31
Barium (SPLP)	mg/L						3.8	
Cadmium	mg/kg	10 J		0.29 J		0.21		17 J
Chromium, Total	mg/kg	66 J		9.5 J		9.4		74 J
Copper	mg/kg	30		12		15		32
Lead	mg/kg	160 J		78 J		68		170 J
Mercury	mg/kg	0.095		0.32		0.32		0.11
Nickel	mg/kg	14 J		11 J		11		15
Silver	mg/kg	3.0		0.20		1.3		3.3
Zinc	mg/kg	48		40		82		31
Zinc (SPLP)	mg/L						3.9	
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg		170					
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg	0.90						1.1
Total Petroleum Hydrocarbons EPA 418.1	mg/kg			220				
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg	390		260		520		680

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-040	WT-CS-03-041	WT-CS-03-042	WT-CS-03-042	WT-CS-03-043	WT-CS-03-043	WT-CS-03-045
	Sample ID	2001364	2001365	2001366	2001366	2001401	2001401	2001435
	Sample Date	11/29/2001	11/29/2001	11/29/2001	11/29/2001	11/30/2001	11/30/2001	12/04/2001
	Sample Time	09:52	10:57	11:05	11:05	10:50	10:50	09:55
	Sample Depth							
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111C12-6A	E111C12-7	E111C12-8A	E111C12-8B	E111C58-1A	E112485-1	E112079-2A
Constituent	Units							
Benzo(b)fluoranthene	ug/kg	690		300 J		1000 J		980 J
Benzo(a)pyrene	ug/kg	430		300 J		620 J		640
Benzo(g,h,i)perylene	ug/kg			200 J		190 J		270 J
Benzo(k)fluoranthene	ug/kg	240		300 J		320 J		340
Carbazole	ug/kg							
Chrysene	ug/kg	460		400 J		740		750
Dibenz(a,h)anthracene	ug/kg							190 J
Fluoranthene	ug/kg	770		520		1200 J		1400 J
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg					180 J		250
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg	350		440		940		650
bis(2-Ethylhexyl) Phthalate	ug/kg							190
Pyrene	ug/kg	920		930 J		1500		1400
Trichloroethylene (TCE)	ug/kg				1600			
Naphthalene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-047	WT-CS-03-048					
	Sample ID	2001437	2001438					
	Sample Date	12/04/2001	12/04/2001					
	Sample Time	10:02	10:08					
	Sample Depth							
	Laboratory	PREM	PREM					
	Lab. Number	E112079-4A	E112079-5A					
Constituent	Units							
Date PCBs Analyzed	-							
Date Metals Analyzed	-	12/05/2001	12/05/2001					
Date of Metals SPLP Analysis	-							
Date Organics Analyzed	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	**mg/kg**		0.68					
Barium	**mg/kg**	1.4	12					
Barium (SPLP)	**mg/L**							
Cadmium	mg/kg							
Chromium, Total	mg/kg	5.0 J	4.6 J					
Copper	mg/kg	4.5	3.7					
Lead	mg/kg	4.5 J	4.4 J					
Mercury	mg/kg	0.035						
Nickel	mg/kg	5.8	5.8					
Silver	mg/kg							
Zinc	mg/kg	17	12					
Zinc (SPLP)	mg/L							
PCB-1242 (Arochlor 1242)	ug/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg							
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthylene	ug/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							

Table 6-2
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN UPPER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-03-047	WT-CS-03-048					
	Sample ID	2001437	2001438					
	Sample Date	12/04/2001	12/04/2001					
	Sample Time	10:02	10:08					
	Sample Depth							
	Laboratory	PREM	PREM					
	Lab. Number	E112079-4A	E112079-5A					
Constituent	Units							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
2-Methylnaphthalene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							
Trichloroethylene (TCE)	ug/kg							
Naphthalene	ug/kg							
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Table 6-3
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR SAMPLES IN OIL/WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-001	2001207	10/30/2001		SSC						x		
WT-CS-04-002	2001208	10/30/2001		SSC						x		
WT-CS-04-003	2001209	10/30/2001		SS						x		
WT-CS-04-004	2001210	10/30/2001		SSC						X		
WT-CS-04-005	2001211	10/30/2001		SSC						X		
WT-CS-04-006	2001212	10/30/2001		SSC						X		
WT-CS-04-007	2001213	10/30/2001		SSC						x		
WT-CS-04-008	2001214	10/30/2001		SSC						X		
WT-CS-04-009	2001215	10/30/2001		SSC						x		
WT-CS-04-010	2001216	10/30/2001		SSC						X		
WT-CS-04-010	2001217	10/30/2001		SSC						X		
WT-CS-04-011	2001218	10/30/2001		SSC						X		
WT-CS-04-012	2001219	10/30/2001		SSC						X		
WT-CS-04-013	2001220	10/30/2001		SSC						X		
WT-CS-04-014	2001221	11/05/2001		SSC						x		
WT-CS-04-015	2001222	11/05/2001		SSC						X		
WT-CS-04-015	2001223	11/05/2001		SSC						X		
WT-CS-04-016	2001224	11/05/2001		SSC						X		
WT-CS-04-017	2001225	11/05/2001		SSC						X		
WT-CS-04-018	2001226	11/05/2001		SSC						X		
WT-CS-04-019	2001227	11/05/2001		SSC						X		
WT-CS-04-020	2001228	11/05/2001		SSC						X		
WT-CS-04-021	2001229	11/05/2001		SSC						X		
WT-CS-04-022	2001230	11/05/2001		SSC						X		
WT-CS-04-023	2001231	11/05/2001		SSC						X		
WT-CS-04-024	2001232	11/05/2001		SSC						X		
WT-CS-04-025	2001233	11/05/2001		SSC						X		
WT-CS-04-026	2001234	11/06/2001		SSC						x		
WT-CS-04-027	2001235	11/06/2001		SS		x	x			X	X	x
WT-CS-04-028	2001236	11/06/2001		SSC						X		
WT-CS-04-029	2001237	11/06/2001		SS		x	x			x	X	x
WT-CS-04-030	2001238	11/06/2001		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-3
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR SAMPLES IN OIL/WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-031	2001239	11/06/2001		SS		x	x			x	X	X
WT-CS-04-032	2001240	11/06/2001		SSC						X		
WT-CS-04-033	2001241	11/06/2001		SS		x	X			x	X	X
WT-CS-04-034	2001242	11/06/2001		SSC						X		
WT-CS-04-034	2001244	11/06/2001		SSC						X		
WT-CS-04-035	2001243	11/06/2001		SS		x	x			x	X	x
WT-CS-04-035	2001245	11/06/2001		SS		x	x			x	X	X
WT-CS-04-036	2001246	11/06/2001		SSC						X		
WT-CS-04-037	2001247	11/06/2001		SS		x	X			X	X	X
WT-CS-04-038	2001248	11/06/2001		SSC						X		
WT-CS-04-039	2001249	11/06/2001		SSC						X		
WT-CS-04-040	2001250	11/06/2001		SSC						X		
WT-CS-04-041	2001251	11/06/2001		SS		x	X			X	X	x
WT-CS-04-042	2001252	11/06/2001		SSC						X		
WT-CS-04-043	2001253	11/06/2001		SS		x	X			x	X	x
WT-CS-04-044	2001254	11/06/2001		SSC						X		
WT-CS-04-045	2001255	11/06/2001		SS		x	X			X	X	x
WT-CS-04-046	2001256	11/06/2001		SSC						X		
WT-CS-04-047	2001257	11/06/2001		SS		x	X			X	X	X
WT-CS-04-048	2001258	11/06/2001		SSC						X		
WT-CS-04-049	2001259	11/06/2001		SS		x	x			x	X	x
WT-CS-04-050	2001260	11/06/2001		SSC						X		
WT-CS-04-051	2001261	11/06/2001		SS		x	X			X	X	x
WT-CS-04-052	2001262	11/06/2001		SSC						X		
WT-CS-04-053	2001263	11/06/2001		SS		x	X			X	X	X
WT-CS-04-054	2001264	11/06/2001		SSC						X		
WT-CS-04-055	2001265	11/06/2001		SS		x	X			X	X	X
WT-CS-04-056	2001266	11/06/2001		SSC						X		
WT-CS-04-057	2001267	11/06/2001		SS		x	X			X	X	x
WT-CS-04-058	2001268	11/06/2001		SSC						X		
WT-CS-04-059	2001310	11/14/2001		SSC						X		
WT-CS-04-060	2001311	11/14/2001		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-3
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR SAMPLES IN OIL/WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-061	2001312	11/14/2001		SSC						X		
WT-CS-04-061	2001314	11/14/2001		SSC						X		
WT-CS-04-062	2001313	11/14/2001		SSC						X		
WT-CS-04-063	2001319	11/26/2001		CC						X		
WT-CS-04-064	2001409	12/03/2001		SSC						x		
WT-CS-04-065	2001410	12/03/2001		SS		x	X			x	Xs	x
WT-CS-04-068	2001413	12/03/2001		SSC						X		
WT-CS-04-069	2001414	12/03/2001		SS		x	x			x	Xs	x
WT-CS-04-069	2001415	12/03/2001		SS		x	x			x	Xs	x
WT-CS-04-070	2001416	12/03/2001		SSC						X		
WT-CS-04-071	2001417	12/03/2001		SS		x	x			X	Xs	x
WT-CS-04-072	2001418	12/03/2001		SSC						X		
WT-CS-04-072	2001419	12/03/2001		SSC						X		
WT-CS-04-073	2001420	12/03/2001		SS		x	x			x	Xs	x
WT-CS-04-080	2001441	12/05/2001		SS		x	x			X	XS	X
WT-CS-04-081	2001442	12/05/2001		SS		x	x			x	Xs	x
WT-CS-04-082	2001443	12/05/2001		SSC						X		
WT-CS-04-083	2001444	12/05/2001		SS		x	x			X	Xs	x
WT-CS-04-083	2001445	12/05/2001		SS		x	x			X	XS	x
WT-CS-04-084	2001446	12/05/2001		SSC						x		
WT-CS-04-085	2001447	12/05/2001		SS		x	x			X	Xs	x
WT-CS-04-086	2001448	12/05/2001		SSC						X		
WT-CS-04-086	2001449	12/05/2001		SSC						X		
WT-CS-04-087	2001450	12/05/2001		SS		x	x			x	Xs	x
WT-CS-04-089	2001452	12/05/2001		SS		x	x			x	XS	x
WT-CS-04-096	2001466	12/07/2001		SSC						x		
WT-CS-04-097	2001467	12/07/2001		SS		x	x			x	Xs	x
WT-CS-04-098	2001468	12/07/2001		SSC						X		
WT-CS-04-099	2001469	12/07/2001		SS		x	X			x	Xs	x
WT-CS-04-100	2001470	12/07/2001		SSC						X		
WT-CS-04-101	2001471	12/07/2001		SS		x	x			x	Xs	x
WT-CS-04-102	2001472	12/07/2001		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-3
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR SAMPLES IN OIL/WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEA Volatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-04-103	2001473	12/07/2001		SS		x	x			x	Xs	x
WT-CS-04-106	2001483	12/12/2001		SSC						X		
WT-CS-04-107	2001484	12/12/2001		SS		x	x			x	X	x
WT-CS-04-108	2001485	12/12/2001		SSC						X		
WT-CS-04-109	2001486	12/12/2001		SS		x	x			x	X	x
WT-CS-04-110	2001504	12/17/2001		SSC						X		
WT-CS-04-111	2001505	12/17/2001		SS		x	x			x	X	x
WT-CS-04-112	2001506	12/17/2001		SSC						x		
WT-CS-04-113	2001507	12/17/2001		SS		x	x			x	X	X
WT-CS-04-114	2001508	12/17/2001		SSC						x		
WT-CS-04-115	2001509	12/17/2001		SS		x	x			x	X	x
WT-CS-04-116	2001671	01/10/2002		SS								x
WT-CS-04-117	2002390	04/17/2002		SSC						X		
WT-CS-04-118	2002391	04/17/2002		SS			X			X		
WT-CS-04-119	2002392	04/17/2002		SSC						X		
WT-CS-04-120	2002393	04/17/2002		SS			x			x		x
WT-CS-04-121	2002394	04/17/2002		SSC						X		
WT-CS-04-122	2002395	04/17/2002		SS			X			X		x
WT-CS-04-123	2002397	04/22/2002		SSC						x		
WT-CS-04-123	2002398	04/22/2002		SSC						x		
WT-CS-04-124	2002399	04/22/2002		SS						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-004	WT-CS-04-005	WT-CS-04-006	WT-CS-04-008	WT-CS-04-010	WT-CS-04-010	WT-CS-04-011
	Sample ID	2001210	2001211	2001212	2001214	2001216	2001217	2001218
	Sample Date	10/30/2001	10/30/2001	10/30/2001	10/30/2001	10/30/2001	10/30/2001	10/30/2001
	Sample Time	15:38	15:40	15:45	15:50	15:55	16:00	16:05
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110D62-4	E110D62-5	E110D62-6	E110D62-8	E110D62-10	E110D62-11	E110D62-12
Constituent	Units							
Date PCBs Analyzed	-	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001	10/31/2001
Date Metals Analyzed	-							
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg							
Barium	mg/kg							
Cadmium	mg/kg							
Chromium, Total	mg/kg							
Copper	mg/kg							
Lead	mg/kg							
Mercury	mg/kg							
Nickel	mg/kg							
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	6400	110	36	160	4000	5200	39
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-004	WT-CS-04-005	WT-CS-04-006	WT-CS-04-008	WT-CS-04-010	WT-CS-04-010	WT-CS-04-011
	Sample ID	2001210	2001211	2001212	2001214	2001216	2001217	2001218
	Sample Date	10/30/2001	10/30/2001	10/30/2001	10/30/2001	10/30/2001	10/30/2001	10/30/2001
	Sample Time	15:38	15:40	15:45	15:50	15:55	16:00	16:05
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110D62-4	E110D62-5	E110D62-6	E110D62-8	E110D62-10	E110D62-11	E110D62-12
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-012	WT-CS-04-013	WT-CS-04-015	WT-CS-04-015	WT-CS-04-016	WT-CS-04-017	WT-CS-04-018
	Sample ID	2001219	2001220	2001222	2001223	2001224	2001225	2001226
	Sample Date	10/30/2001	10/30/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001
	Sample Time	16:05	16:15	16:20	16:25	16:25	16:27	16:28
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110D62-13	E110D62-14	E111158-2	E111158-3	E111158-4	E111158-5	E111158-6
Constituent	Units							
Date PCBs Analyzed	-	10/31/2001	10/31/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
Date Metals Analyzed	-							
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg							
Barium	mg/kg							
Cadmium	mg/kg							
Chromium, Total	mg/kg							
Copper	mg/kg							
Lead	mg/kg							
Mercury	mg/kg							
Nickel	mg/kg							
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	30	1700	97	76	440	2100	140
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-012	WT-CS-04-013	WT-CS-04-015	WT-CS-04-015	WT-CS-04-016	WT-CS-04-017	WT-CS-04-018
	Sample ID	2001219	2001220	2001222	2001223	2001224	2001225	2001226
	Sample Date	10/30/2001	10/30/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001
	Sample Time	16:05	16:15	16:20	16:25	16:25	16:27	16:28
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E110D62-13	E110D62-14	E111158-2	E111158-3	E111158-4	E111158-5	E111158-6
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-019	WT-CS-04-020	WT-CS-04-021	WT-CS-04-022	WT-CS-04-023	WT-CS-04-024	WT-CS-04-025
	Sample ID	2001227	2001228	2001229	2001230	2001231	2001232	2001233
	Sample Date	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001
	Sample Time	16:30	16:37	16:40	16:45	16:45	16:50	16:50
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111158-7	E111158-8	E111158-9	E111158-10	E111158-11	E111158-12	E111158-13
Constituent	Units							
Date PCBs Analyzed	-	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
Date Metals Analyzed	-							
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg							
Barium	mg/kg							
Cadmium	mg/kg							
Chromium, Total	mg/kg							
Copper	mg/kg							
Lead	mg/kg							
Mercury	mg/kg							
Nickel	mg/kg							
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg							
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	440	1700	470	650	2500	1500	410
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-019	WT-CS-04-020	WT-CS-04-021	WT-CS-04-022	WT-CS-04-023	WT-CS-04-024	WT-CS-04-025
	Sample ID	2001227	2001228	2001229	2001230	2001231	2001232	2001233
	Sample Date	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001	11/05/2001
	Sample Time	16:30	16:37	16:40	16:45	16:45	16:50	16:50
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111158-7	E111158-8	E111158-9	E111158-10	E111158-11	E111158-12	E111158-13
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-027	WT-CS-04-028	WT-CS-04-029	WT-CS-04-031	WT-CS-04-032	WT-CS-04-033	WT-CS-04-034
	Sample ID	2001235	2001236	2001237	2001239	2001240	2001241	2001242
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	11:35	11:45	11:45	12:00	12:05	12:05	12:15
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-2A	E111220-3	E111220-4A	E111220-6A	E111220-7	E111220-8A	E111220-9
Constituent	Units							
Date PCBs Analyzed	-	11/07/2001	11/07/2001			11/07/2001		11/07/2001
Date Metals Analyzed	-	11/09/2001		11/09/2001	11/09/2001		11/09/2001	
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-				11/07/2001		11/07/2001	
Date Semi-volatile Organics Analyzed	-						11/08/2001	
Arsenic	mg/kg	0.94		1.1				
Barium	mg/kg	18		35	41		18	
Cadmium	mg/kg			0.17	9.0		0.15	
Chromium, Total	mg/kg	10		7.4	14		120	
Copper	mg/kg	7.4		5.7	8.6		5.6	
Lead	mg/kg	12 J		19 J	24 J		14 J	
Mercury	mg/kg			0.095	0.073		0.11	
Nickel	mg/kg	18 J		6.5 J	26 J		8.9 J	
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg	9.2		58	170		110	
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	3300	7700			360		2200 J
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg				510		260	
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-027	WT-CS-04-028	WT-CS-04-029	WT-CS-04-031	WT-CS-04-032	WT-CS-04-033	WT-CS-04-034
	Sample ID	2001235	2001236	2001237	2001239	2001240	2001241	2001242
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	11:35	11:45	11:45	12:00	12:05	12:05	12:15
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-2A	E111220-3	E111220-4A	E111220-6A	E111220-7	E111220-8A	E111220-9
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg						220	
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-034	WT-CS-04-035	WT-CS-04-035	WT-CS-04-036	WT-CS-04-037	WT-CS-04-038	WT-CS-04-039
	Sample ID	2001244	2001243	2001245	2001246	2001247	2001248	2001249
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	12:20	12:15	12:20	12:30	12:30	12:35	12:38
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-11	E111220-10A	E111220-12A	E111220-13	E111220-14A	E111220-15	E111220-16
Constituent	Units							
Date PCBs Analyzed	-	11/07/2001			11/07/2001	11/07/2001	11/07/2001	11/07/2001
Date Metals Analyzed	-		11/09/2001	11/09/2001		11/09/2001		
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-			11/07/2001		11/07/2001		
Date Semi-volatile Organics Analyzed	-					11/08/2001		
Arsenic	mg/kg					3.0		
Barium	mg/kg		13	16		120		
Cadmium	mg/kg					20		
Chromium, Total	mg/kg		5.3	5.3		320		
Copper	mg/kg		4.3	4.1		110		
Lead	mg/kg		3.2 J	3.3 J		240 J		
Mercury	mg/kg					0.85		
Nickel	mg/kg		6.1 J	13 J		94 J		
Nickel (SPLP)	mg/L							
Silver	mg/kg					12 J		
Zinc	mg/kg		15	13		130		
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	3700 J					480	17000
PCB-1260 (Arochlor 1260)	ug/kg				370	810		
Cyanide	mg/kg					1.6 J		
Total Petroleum Hydrocarbons EPA 418.1	mg/kg			220		840		
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg					310		
Benzo(b)fluoranthene	ug/kg					320		
Benzo(a)pyrene	ug/kg					320		
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg					300		
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-034	WT-CS-04-035	WT-CS-04-035	WT-CS-04-036	WT-CS-04-037	WT-CS-04-038	WT-CS-04-039
	Sample ID	2001244	2001243	2001245	2001246	2001247	2001248	2001249
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	12:20	12:15	12:20	12:30	12:30	12:35	12:38
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-11	E111220-10A	E111220-12A	E111220-13	E111220-14A	E111220-15	E111220-16
Constituent	Units							
Chrysene	ug/kg					410		
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg					850		
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg					410		
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg					720		

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-040	WT-CS-04-041	WT-CS-04-042	WT-CS-04-043	WT-CS-04-044	WT-CS-04-045	WT-CS-04-046
	Sample ID	2001250	2001251	2001252	2001253	2001254	2001255	2001256
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	12:45	12:45	12:55	12:55	13:00	13:00	13:05
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-17	E111220-18A	E111220-19	E111220-20A	E111220-21	E111220-22A	E111220-23
Constituent	Units							
Date PCBs Analyzed	-	11/07/2001	11/08/2001	11/07/2001		11/07/2001	11/08/2001	11/08/2001
Date Metals Analyzed	-		11/09/2001		11/09/2001		11/09/2001	
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-		11/08/2001		11/08/2001		11/08/2001	
Arsenic	mg/kg		2.0		4.4		3.7	
Barium	mg/kg		28		53		38	
Cadmium	mg/kg		0.61				1.9	
Chromium, Total	mg/kg		34		11		85	
Copper	mg/kg		70		11		26	
Lead	mg/kg		25 J		27 J		42 J	
Mercury	mg/kg		0.50		0.16		0.33	
Nickel	mg/kg		20 J		6.7 J		53 J	
Nickel (SPLP)	mg/L							
Silver	mg/kg		0.68 J				1.6 J	
Zinc	mg/kg		42		35		39	
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	1700	6000	240		1900	3800	6800
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg						240	
Anthracene	ug/kg						390	
Benzo(a)anthracene	ug/kg		600				1100	
Benzo(b)fluoranthene	ug/kg		520				1000	
Benzo(a)pyrene	ug/kg		600				1000	
Benzo(g,h,i)perylene	ug/kg		270				390	
Benzo(k)fluoranthene	ug/kg		540				830	
Carbazole	ug/kg						300	

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-040	WT-CS-04-041	WT-CS-04-042	WT-CS-04-043	WT-CS-04-044	WT-CS-04-045	WT-CS-04-046
	Sample ID	2001250	2001251	2001252	2001253	2001254	2001255	2001256
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	12:45	12:45	12:55	12:55	13:00	13:00	13:05
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-17	E111220-18A	E111220-19	E111220-20A	E111220-21	E111220-22A	E111220-23
Constituent	Units							
Chrysene	ug/kg		640				1200	
Dibenz(a,h)anthracene	ug/kg						220	
Fluoranthene	ug/kg		1100		250		2000	
Fluorene	ug/kg						210	
Indeno(1,2,3-c,d)pyrene	ug/kg		280				420	
Phenanthrene	ug/kg		600				1300	
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg		1100		210		1800	

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-047	WT-CS-04-048	WT-CS-04-049	WT-CS-04-050	WT-CS-04-051	WT-CS-04-052	WT-CS-04-053
	Sample ID	2001257	2001258	2001259	2001260	2001261	2001262	2001263
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	13:05	13:10	13:10	13:15	13:15	13:20	13:20
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-24A	E111220-25	E111220-26A	E111220-27	E111220-28A	E111220-29	E111220-30A
Constituent	Units							
Date PCBs Analyzed	-	11/07/2001	11/07/2001		11/07/2001	11/07/2001	11/08/2001	11/07/2001
Date Metals Analyzed	-	11/09/2001		11/09/2001		11/09/2001		11/09/2001
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-	11/07/2001						11/07/2001
Date Semi-volatile Organics Analyzed	-	11/08/2001				11/08/2001		11/08/2001
Arsenic	mg/kg	1.8				2.5		1.4
Barium	mg/kg	26		14		35		22
Cadmium	mg/kg	1.5				3.0		0.55
Chromium, Total	mg/kg	92		4.6		100		33
Copper	mg/kg	25		4.0		30		16
Lead	mg/kg	31 J		3.1 J		46 J		24 J
Mercury	mg/kg	0.19				0.18		0.15
Nickel	mg/kg	36 J		5.4 J		80 J		21 J
Nickel (SPLP)	mg/L							
Silver	mg/kg	1.1 J				1.3 J		0.41 J
Zinc	mg/kg	38		21		52		65
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	2100	740		1000	1100	2400	4600
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg	210						190
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg	620				290		520
Benzo(b)fluoranthene	ug/kg	600				270		540
Benzo(a)pyrene	ug/kg	620				290		550
Benzo(g,h,i)perylene	ug/kg	260						210
Benzo(k)fluoranthene	ug/kg	550				280		490
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-047	WT-CS-04-048	WT-CS-04-049	WT-CS-04-050	WT-CS-04-051	WT-CS-04-052	WT-CS-04-053
	Sample ID	2001257	2001258	2001259	2001260	2001261	2001262	2001263
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001
	Sample Time	13:05	13:10	13:10	13:15	13:15	13:20	13:20
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-24A	E111220-25	E111220-26A	E111220-27	E111220-28A	E111220-29	E111220-30A
Constituent	Units							
Chrysene	ug/kg	680				330		560
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg	1100				670		930
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg	260						210
Phenanthrene	ug/kg	570				370		470
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg	1000				560		850

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-054	WT-CS-04-055	WT-CS-04-056	WT-CS-04-057	WT-CS-04-058	WT-CS-04-059	WT-CS-04-061
	Sample ID	2001264	2001265	2001266	2001267	2001268	2001310	2001312
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/14/2001	11/14/2001
	Sample Time	13:25	13:25	13:30	13:30	16:00	15:15	15:25
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-31	E111220-32A	E111220-33	E111220-34A	E111261-1	E111656-1	E111656-3
Constituent	Units							
Date PCBs Analyzed	-	11/08/2001	11/08/2001	11/08/2001	11/08/2001	11/07/2001	11/16/2001	11/16/2001
Date Metals Analyzed	-		11/09/2001		11/09/2001			
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-		11/07/2001					
Date Semi-volatile Organics Analyzed	-		11/08/2001		11/08/2001			
Arsenic	mg/kg		1.4		2.7			
Barium	mg/kg		25		28			
Cadmium	mg/kg		0.68		0.18			
Chromium, Total	mg/kg		32		17			
Copper	mg/kg		24		12			
Lead	mg/kg		100 J		35 J			
Mercury	mg/kg		0.26		0.13			
Nickel	mg/kg		29 J		14 J			
Nickel (SPLP)	mg/L							
Silver	mg/kg		0.98 J		0.19 J			
Zinc	mg/kg		50		35			
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	3400	2200	2300	360	3100	990	270
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg		260					
Acenaphthene	ug/kg							
Anthracene	ug/kg		400					
Benzo(a)anthracene	ug/kg		2000		260			
Benzo(b)fluoranthene	ug/kg		1500		240			
Benzo(a)pyrene	ug/kg		1700		250			
Benzo(g,h,i)perylene	ug/kg		570					
Benzo(k)fluoranthene	ug/kg		1500		250			
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-054	WT-CS-04-055	WT-CS-04-056	WT-CS-04-057	WT-CS-04-058	WT-CS-04-059	WT-CS-04-061
	Sample ID	2001264	2001265	2001266	2001267	2001268	2001310	2001312
	Sample Date	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/06/2001	11/14/2001	11/14/2001
	Sample Time	13:25	13:25	13:30	13:30	16:00	15:15	15:25
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111220-31	E111220-32A	E111220-33	E111220-34A	E111261-1	E111656-1	E111656-3
Constituent	Units							
Chrysene	ug/kg		2000		290			
Dibenz(a,h)anthracene	ug/kg		340					
Fluoranthene	ug/kg		5000		580			
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg		570					
Phenanthrene	ug/kg		2200		320			
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg		4200		500			

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-061	WT-CS-04-062	WT-CS-04-063	WT-CS-04-065	WT-CS-04-068	WT-CS-04-069	WT-CS-04-069
	Sample ID	2001314	2001313	2001319	2001410	2001413	2001414	2001415
	Sample Date	11/14/2001	11/14/2001	11/26/2001	12/03/2001	12/03/2001	12/03/2001	12/03/2001
	Sample Time	15:30	15:30	13:30	11:20	11:31	11:35	11:40
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111656-5	E111656-4	E111A11-1	E112023-2A	E112023-5	E112023-6A	E112023-7A
Constituent	Units							
Date PCBs Analyzed	-	11/16/2001	11/16/2001	11/27/2001		12/04/2001		
Date Metals Analyzed	-				12/05/2001		12/05/2001	12/05/2001
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-				12/04/2001			
Arsenic	mg/kg				72			1.8 J
Barium	mg/kg				17		15	14
Cadmium	mg/kg							
Chromium, Total	mg/kg				6.7		4.2	3.8
Copper	mg/kg				6.5		4.5	4.2
Lead	mg/kg				14		2.2	2.0
Mercury	mg/kg				0.068			
Nickel	mg/kg				7.0		8.9	9.9
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg				18		15	14
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	210	380	1400		190		
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-061	WT-CS-04-062	WT-CS-04-063	WT-CS-04-065	WT-CS-04-068	WT-CS-04-069	WT-CS-04-069
	Sample ID	2001314	2001313	2001319	2001410	2001413	2001414	2001415
	Sample Date	11/14/2001	11/14/2001	11/26/2001	12/03/2001	12/03/2001	12/03/2001	12/03/2001
	Sample Time	15:30	15:30	13:30	11:20	11:31	11:35	11:40
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E111656-5	E111656-4	E111A11-1	E112023-2A	E112023-5	E112023-6A	E112023-7A
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg				210			
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg				200			

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-070	WT-CS-04-071	WT-CS-04-072	WT-CS-04-072	WT-CS-04-073	WT-CS-04-080	WT-CS-04-081
	Sample ID	2001416	2001417	2001418	2001419	2001420	2001441	2001442
	Sample Date	12/03/2001	12/03/2001	12/03/2001	12/03/2001	12/03/2001	12/05/2001	12/05/2001
	Sample Time	11:45	11:50	11:52	11:55	12:00	09:45	09:50
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112023-8	E112023-9A	E112023-10	E112023-11	E112023-12A	E112129-1A	E112129-2A
Constituent	Units							
Date PCBs Analyzed	-	12/04/2001	12/04/2001	12/04/2001	12/03/2001		12/05/2001	
Date Metals Analyzed	-		12/05/2001			12/05/2001	12/10/2001	12/10/2001
Date of Metals SPLP Analysis	-						12/06/2001	
Date Physical Analyzed	-						12/06/2001	
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg					0.72	2.2	0.82
Barium	mg/kg		15			19	26	21
Cadmium	mg/kg		0.21 J				0.21	
Chromium, Total	mg/kg		12			4.7	14	7.6
Copper	mg/kg		4.7			4.4	12	2.7
Lead	mg/kg		4.4			6.8	41 J	3.4 J
Mercury	mg/kg					0.025	0.085	
Nickel	mg/kg		15			6.8	14	10
Nickel (SPLP)	mg/L						0.087	
Silver	mg/kg						0.46 J	
Zinc	mg/kg		15			13	42	15
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	340	770	160 J	100 J		710	
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg						640	
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-070	WT-CS-04-071	WT-CS-04-072	WT-CS-04-072	WT-CS-04-073	WT-CS-04-080	WT-CS-04-081
	Sample ID	2001416	2001417	2001418	2001419	2001420	2001441	2001442
	Sample Date	12/03/2001	12/03/2001	12/03/2001	12/03/2001	12/03/2001	12/05/2001	12/05/2001
	Sample Time	11:45	11:50	11:52	11:55	12:00	09:45	09:50
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112023-8	E112023-9A	E112023-10	E112023-11	E112023-12A	E112129-1A	E112129-2A
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-082	WT-CS-04-083	WT-CS-04-083	WT-CS-04-085	WT-CS-04-086	WT-CS-04-086	WT-CS-04-087
	Sample ID	2001443	2001444	2001445	2001447	2001448	2001449	2001450
	Sample Date	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001
	Sample Time	09:55	09:56	09:59	10:06	11:53	11:56	11:57
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112129-3	E112129-4A	E112129-5A	E112129-7A	E112129-8	E112129-9	E112129-10A
Constituent	Units							
Date PCBs Analyzed	-	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001	
Date Metals Analyzed	-		12/10/2001	12/10/2001	12/10/2001			12/10/2001
Date of Metals SPLP Analysis	-			12/06/2001				
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg		1.6	1.5	1.3			1.1
Barium	mg/kg		27	37	16			11
Cadmium	mg/kg			1.8 J				
Chromium, Total	mg/kg		7.2 J	43 J	8.7			5.9
Copper	mg/kg		5.3 J	15 J	4.6			4.6
Lead	mg/kg		7.3 J	18 J	5.8 J			4.5 J
Mercury	mg/kg		0.034	0.026	0.031			
Nickel	mg/kg		8.0 J	40 J	9.8			8.7
Nickel (SPLP)	mg/L			0.038				
Silver	mg/kg			0.99 J				
Zinc	mg/kg		19	24	17			14
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	120	110 J	220 J	71	97	90	
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-082	WT-CS-04-083	WT-CS-04-083	WT-CS-04-085	WT-CS-04-086	WT-CS-04-086	WT-CS-04-087
	Sample ID	2001443	2001444	2001445	2001447	2001448	2001449	2001450
	Sample Date	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001	12/05/2001
	Sample Time	09:55	09:56	09:59	10:06	11:53	11:56	11:57
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112129-3	E112129-4A	E112129-5A	E112129-7A	E112129-8	E112129-9	E112129-10A
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-089	WT-CS-04-097	WT-CS-04-098	WT-CS-04-099	WT-CS-04-100	WT-CS-04-101	WT-CS-04-103
	Sample ID	2001452	2001467	2001468	2001469	2001470	2001471	2001473
	Sample Date	12/05/2001	12/07/2001	12/07/2001	12/07/2001	12/07/2001	12/07/2001	12/07/2001
	Sample Time	12:05	12:30	12:35	12:37	12:40	12:42	12:48
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112129-12A	E112249-4A	E112249-5	E112249-6A	E112249-7	E112249-8A	E112249-10A
Constituent	Units							
Date PCBs Analyzed	-			12/07/2001		12/07/2001		
Date Metals Analyzed	-	12/10/2001	12/11/2001		12/11/2001		12/11/2001	12/11/2001
Date of Metals SPLP Analysis	-	12/06/2001						
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-				12/11/2001			
Arsenic	mg/kg							0.89 J
Barium	mg/kg	17	18		14		12	14
Cadmium	mg/kg	0.68						
Chromium, Total	mg/kg	12	7.1		6.1		4.7	4.8
Copper	mg/kg	5.3	2.9		4.5		4.5	4.9
Lead	mg/kg	4.2 J	3.5		5.6		2.3	2.4
Mercury	mg/kg							
Nickel	mg/kg	22	6.5		7.6		8.2	7.8
Nickel (SPLP)	mg/L	0.090						
Silver	mg/kg							
Zinc	mg/kg	24	13		12		12	10
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg			220		1200		
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-089	WT-CS-04-097	WT-CS-04-098	WT-CS-04-099	WT-CS-04-100	WT-CS-04-101	WT-CS-04-103
	Sample ID	2001452	2001467	2001468	2001469	2001470	2001471	2001473
	Sample Date	12/05/2001	12/07/2001	12/07/2001	12/07/2001	12/07/2001	12/07/2001	12/07/2001
	Sample Time	12:05	12:30	12:35	12:37	12:40	12:42	12:48
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112129-12A	E112249-4A	E112249-5	E112249-6A	E112249-7	E112249-8A	E112249-10A
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg				600			
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-106	WT-CS-04-107	WT-CS-04-108	WT-CS-04-109	WT-CS-04-110	WT-CS-04-111	WT-CS-04-113
	Sample ID	2001483	2001484	2001485	2001486	2001504	2001505	2001507
	Sample Date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/17/2001	12/17/2001	12/17/2001
	Sample Time	10:56	11:05	11:10	11:15	08:25	08:35	08:45
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112477-3	E112477-4A	E112477-5	E112477-6A	E112646-1	E112646-2A	E112646-4A
Constituent	Units							
Date PCBs Analyzed	-	12/13/2001		12/13/2001		12/17/2001		
Date Metals Analyzed	-		12/13/2001		12/13/2001		12/19/2001	12/19/2001
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							12/18/2001
Date Semi-volatile Organics Analyzed	-							
Arsenic	mg/kg		0.84					
Barium	mg/kg		11 J		16 J		9.4 J	9.8 J
Cadmium	mg/kg							
Chromium, Total	mg/kg		3.1		4.6		5.6	4.7
Copper	mg/kg		3.2		5.7		4.4 J	3.6 J
Lead	mg/kg		2.1		2.7		3.2 J	2.6 J
Mercury	mg/kg							
Nickel	mg/kg		5.0		10		7.8	6.6
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg		6.6		10		13 J	13 J
PCB-1248 (Arochlor 1248)	ug/kg							
PCB-1254 (Arochlor 1254)	ug/kg	180		320		450		
PCB-1260 (Arochlor 1260)	ug/kg							
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							570
Acenaphthene	ug/kg							
Anthracene	ug/kg							
Benzo(a)anthracene	ug/kg							
Benzo(b)fluoranthene	ug/kg							
Benzo(a)pyrene	ug/kg							
Benzo(g,h,i)perylene	ug/kg							
Benzo(k)fluoranthene	ug/kg							
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-106	WT-CS-04-107	WT-CS-04-108	WT-CS-04-109	WT-CS-04-110	WT-CS-04-111	WT-CS-04-113
	Sample ID	2001483	2001484	2001485	2001486	2001504	2001505	2001507
	Sample Date	12/12/2001	12/12/2001	12/12/2001	12/12/2001	12/17/2001	12/17/2001	12/17/2001
	Sample Time	10:56	11:05	11:10	11:15	08:25	08:35	08:45
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	PREM
	Lab. Number	E112477-3	E112477-4A	E112477-5	E112477-6A	E112646-1	E112646-2A	E112646-4A
Constituent	Units							
Chrysene	ug/kg							
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg							
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg							
bis(2-Ethylhexyl) Phthalate	ug/kg							
Pyrene	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-115	WT-CS-04-117	WT-CS-04-118	WT-CS-04-119	WT-CS-04-121	WT-CS-04-122	
	Sample ID	2001509	2002390	2002391	2002392	2002394	2002395	
	Sample Date	12/17/2001	04/17/2002	04/17/2002	04/17/2002	04/17/2002	04/17/2002	
	Sample Time	08:55	11:00	11:15	11:20	11:40	11:50	
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	
	Lab. Number	E112646-6A	E204704-6	E204704-7	E204704-8	E204704-10	E204704-11	
Constituent	Units							
Date PCBs Analyzed	-		04/17/2002	04/17/2002	04/17/2002	04/17/2002	04/17/2002	
Date Metals Analyzed	-	12/19/2001						
Date of Metals SPLP Analysis	-							
Date Physical Analyzed	-							
Date Semi-volatile Organics Analyzed	-			04/20/2002			04/20/2002	
Arsenic	mg/kg							
Barium	mg/kg	11 J						
Cadmium	mg/kg							
Chromium, Total	mg/kg	4.4						
Copper	mg/kg	3.7 J						
Lead	mg/kg	2.4 J						
Mercury	mg/kg							
Nickel	mg/kg	6.0						
Nickel (SPLP)	mg/L							
Silver	mg/kg							
Zinc	mg/kg	10 J						
PCB-1248 (Arochlor 1248)	ug/kg		1100	490				
PCB-1254 (Arochlor 1254)	ug/kg		870	780	100	74	63	
PCB-1260 (Arochlor 1260)	ug/kg		240	190				
Cyanide	mg/kg							
Total Petroleum Hydrocarbons EPA 418.1	mg/kg							
Acenaphthene	ug/kg							
Anthracene	ug/kg			270				
Benzo(a)anthracene	ug/kg			670			390	
Benzo(b)fluoranthene	ug/kg			870			540	
Benzo(a)pyrene	ug/kg			660			410	
Benzo(g,h,i)perylene	ug/kg			190				
Benzo(k)fluoranthene	ug/kg			290				
Carbazole	ug/kg							

Table 6-4
SUMMARY OF CONSTITUENTS DETECTED IN CONFIRMATORY SAMPLES IN OIL//WATER SEPARATOR AREA
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

	Location ID	WT-CS-04-115	WT-CS-04-117	WT-CS-04-118	WT-CS-04-119	WT-CS-04-121	WT-CS-04-122	
	Sample ID	2001509	2002390	2002391	2002392	2002394	2002395	
	Sample Date	12/17/2001	04/17/2002	04/17/2002	04/17/2002	04/17/2002	04/17/2002	
	Sample Time	08:55	11:00	11:15	11:20	11:40	11:50	
	Laboratory	PREM	PREM	PREM	PREM	PREM	PREM	
	Lab. Number	E112646-6A	E204704-6	E204704-7	E204704-8	E204704-10	E204704-11	
Constituent	Units							
Chrysene	ug/kg			710			440	
Dibenz(a,h)anthracene	ug/kg							
Fluoranthene	ug/kg			1500			860	
Fluorene	ug/kg							
Indeno(1,2,3-c,d)pyrene	ug/kg							
Phenanthrene	ug/kg			860			470	
bis(2-Ethylhexyl) Phthalate	ug/kg			230				
Pyrene	ug/kg			1000			650	

Table 6-5
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-06-001	2001500	12/14/2001		WIPE						X		
WT-CS-06-002	2001501	12/14/2001		WIPE						X		
WT-CS-06-003	2001502	12/14/2001		WIPE						X		
WT-CS-06-004	2001503	12/14/2001		WIPE						X		
WT-CS-06-005	2001511	12/17/2001		SSC						X		
WT-CS-06-006	2001512	12/17/2001		SSC						x		
WT-CS-06-006	2001513	12/17/2001		SSC						X		
WT-CS-06-006	2001539	12/21/2001		SSC						x		
WT-CS-06-006	2001540	12/21/2001		SSC						x		
WT-CS-06-007	2001514	12/17/2001		SSC						x		
WT-CS-06-008	2001515	12/17/2001		SSC						x		
WT-CS-06-009	2001516	12/17/2001		SSC						X		
WT-CS-06-010	2001517	12/17/2001		SSC						X		
WT-CS-06-011	2001518	12/17/2001		SS		x	x			X	Xs	X
WT-CS-06-012	2001519	12/17/2001		SSC						x		
WT-CS-06-013	2001520	12/17/2001		SS		x	x			X	Xs	x
WT-CS-06-014	2001521	12/17/2001		SSC						X		
WT-CS-06-015	2001522	12/17/2001		SS		x	x			x	XS	x
WT-CS-06-015	2001523	12/17/2001		SS		x	X			x	XS	x
WT-CS-06-016	2001320	11/27/2001		WIPE						x		
WT-CS-06-017	2001321	11/27/2001		WIPE						X		
WT-CS-06-018	2001526	12/19/2001		WIPE						x		
WT-CS-06-019	2001527	12/19/2001		WIPE						x		
WT-CS-06-020	2001528	12/19/2001		WIPE						x		
WT-CS-06-021	2001529	12/19/2001		WIPE						x		
WT-CS-06-022	2001530	12/19/2001		WIPE						x		
WT-CS-06-023	2001531	12/21/2001		SSC						X		
WT-CS-06-024	2001532	12/21/2001		SSC						X		
WT-CS-06-025	2001533	12/21/2001		SS		x	x			X	X	x
WT-CS-06-026	2001534	12/21/2001		SSC						X		
WT-CS-06-027	2001535	12/21/2001		SSC						X		
WT-CS-06-028	2001536	12/21/2001		SS		x	x			x	X	x

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-5
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-06-029	2001537	12/21/2001		SSC						x		
WT-CS-06-030	2001538	12/21/2001		SS		x	x			X	X	x
WT-CS-06-032	2001576	01/02/2002		SSC						x		
WT-CS-06-033	2001577	01/02/2002		SSC						x		
WT-CS-06-034	2001578	01/02/2002		SSC						X		
WT-CS-07-001	2002385	04/17/2002		SS		x	X			X	X	X
WT-CS-07-002	2002386	04/17/2002		SS		x	X			X	X	X
WT-CS-07-003	2002387	04/17/2002		SS		x	X			X	X	X
WT-CS-07-004	2002388	04/17/2002		SS		x	X			X	X	x
WT-CS-07-005	2002389	04/17/2002		SS		x	X			x	X	x
WT-CS-07-006	2002401	04/24/2002		SS						X		
WT-CS-07-007	2002402	04/24/2002		SS						x		
WT-CS-07-008	2002403	04/24/2002		SS						X		
WT-CS-07-009	2002404	04/24/2002		SS						X		
WT-CS-07-012	2002435	05/28/2002		SSC						x		
WT-CS-07-012	2002436	05/28/2002		SSC						x		
WT-CS-07-013	2002437	05/28/2002		SS		x	X			x	X	x
WT-CS-07-014	2002440	05/29/2002		SSC						X		
WT-CS-07-015	2002441	05/29/2002		SS		X	X			X	X	X
WT-CS-07-016	2002442	05/29/2002		SSC						X		
WT-CS-07-017	2002443	05/29/2002		SS		X	X			X	X	X
WT-CS-07-017	2002444	05/29/2002		SS		X	X			X	X	X
WT-CS-07-018	2002445	05/29/2002		SSC						X		
WT-CS-07-019	2002446	05/29/2002		SS		x	X			X	X	X
WT-CS-07-020	2002447	05/29/2002		SSC						X		
WT-CS-07-021	2002448	05/29/2002		SS		x	x			X	X	X
WT-CS-07-022	2002449	05/29/2002		SSC						X		
WT-CS-07-023	2002450	05/29/2002		SS		X	X			X	X	X
WT-CS-07-024	2002455	05/30/2002		SSC						x		
WT-CS-07-025	2002459	05/30/2002		SSC						x		
WT-CS-07-026	2002460	05/30/2002		SS		x	X			x	X	x
WT-CS-07-027	2002461	05/30/2002		SSC						x		

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Table 6-5
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-07-028	2002462	05/30/2002		SS		x	x			x	X	x
WT-CS-07-030	2002498	06/10/2002		SS		x	X			X	X	X
WT-CS-07-031	2002499	06/10/2002		SS		x	X			X	X	x
WT-CS-07-032	2002500	06/10/2002		SS		x	X			X	X	x
WT-CS-07-033	2002501	06/10/2002		SS		x	X			X	X	X
WT-CS-07-034	2002502	06/10/2002		CC						x		
WT-CS-07-034	2002503	06/10/2002		CC						x		
WT-CS-07-034	2002507	06/10/2002		CC		x	x				X	x
WT-CS-08-001	2001541	12/21/2001		SSC						x		
WT-CS-08-001	2001542	12/21/2001		SSC						x		
WT-CS-08-003	2001544	12/21/2001		SSC						X		
WT-CS-08-005	2001601	01/04/2002		SS						x		
WT-CS-08-006	2001602	01/04/2002		SS						x		
WT-CS-08-007	2001603	01/04/2002		SS						x		
WT-CS-08-008	2001604	01/04/2002		SS						x		
WT-CS-08-009	2001605	01/04/2002		SS		x	x			x	X	x
WT-CS-08-009	2001606	01/04/2002		SS		x	x			X	X	x
WT-CS-08-010	2001607	01/04/2002		SS						X		
WT-CS-08-011	2001608	01/04/2002		SS		x	x			x	X	x
WT-CS-08-012	2001629	01/08/2002		WIPE						x		
WT-CS-08-013	2001630	01/08/2002		WIPE						x		
WT-CS-08-014	2001631	01/08/2002		WIPE						x		
WT-CS-08-015	2001632	01/08/2002		WIPE						x		
WT-CS-08-016	2001633	01/08/2002		WIPE						x		
WT-CS-08-017	2001634	01/08/2002		WIPE						x		
WT-CS-08-018	2001635	01/08/2002		WIPE						x		
WT-CS-08-019	2001636	01/08/2002		WIPE						x		
WT-CS-08-020	2001638	01/09/2002		SSC						X		
WT-CS-08-021	2001639	01/09/2002		SSC						X		
WT-CS-08-022	2001640	01/09/2002		SSC						x		
WT-CS-08-022	2001641	01/09/2002		SSC						x		
WT-CS-08-023	2001642	01/09/2002		SS		x	x			x	X	x

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Table 6-5
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-08-024	2001643	01/09/2002		SSC						X		
WT-CS-08-025	2001644	01/09/2002		SS		x	X			X	X	X
WT-CS-08-025	2001645	01/09/2002		SS		x	X			X	X	X
WT-CS-08-026	2001691	01/16/2002		WIPE						x		
WT-CS-08-027	2001692	01/16/2002		WIPE						x		
WT-CS-08-028	2001693	01/16/2002		WIPE						X		
WT-CS-08-028	2001694	01/16/2002		WIPE						x		
WT-CS-08-029	2001695	01/16/2002		WIPE						x		
WT-CS-08-030	2001696	01/16/2002		WIPE						X		
WT-CS-08-031	2001697	01/16/2002		WIPE						X		
WT-CS-08-032	2001698	01/16/2002		WIPE						X		
WT-CS-08-033	2001719	01/18/2002		SS						x		x
WT-CS-08-034	2001720	01/18/2002		SS						x		x
WT-CS-08-035	2001727	01/18/2002		SSC						x		
WT-CS-08-036	2001728	01/18/2002		SSC						X		
WT-CS-08-037	2001729	01/18/2002		SSC						x		
WT-CS-08-037	2001730	01/18/2002		SSC						x		
WT-CS-08-038	2001731	01/18/2002		SSC						X		
WT-CS-08-039	2001759	01/24/2002		SSC						x		
WT-CS-08-040	2002424	05/23/2002		WIPE						x		
WT-CS-08-041	2002425	05/23/2002		WIPE						x		
WT-CS-08-042	2002497	06/03/2002		WIPE						X		
WT-CS-08-043	2002406	05/20/2002		SSC						x		
WT-CS-08-044	2002420	05/23/2002		SSC						X		
WT-CS-08-045	2002421	05/23/2002		SSC						X		
WT-CS-08-046	2002422	05/23/2002		WIPE						X		
WT-CS-08-047	2002423	05/23/2002		WIPE						x		
WT-CS-09-007	2001554	12/28/2001		SSC						X		
WT-CS-09-008	2001555	12/28/2001		SSC						X		
WT-CS-09-009	2001556	12/28/2001		SSC						x		
WT-CS-09-011	2001558	12/28/2001		SSC						X		
WT-CS-09-013	2001560	12/31/2001		SSC						X		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-5
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-09-014	2001561	12/31/2001		SSC						x		
WT-CS-09-015	2001562	12/31/2001		SSC						X		
WT-CS-09-016	2001563	01/02/2002		SSC						x		
WT-CS-09-017	2001564	01/02/2002		SSC						x		
WT-CS-09-018	2001565	01/02/2002		SSC						x		
WT-CS-09-019	2001566	01/02/2002		SSC						x		
WT-CS-09-019	2001567	01/02/2002		SSC						x		
WT-CS-09-020	2001568	01/02/2002		SSC						X		
WT-CS-09-021	2001569	01/02/2002		SSC						X		
WT-CS-09-025	2001573	01/02/2002		SSC						x		
WT-CS-09-026	2001574	01/02/2002		SSC						x		
WT-CS-09-027	2001575	01/02/2002		SSC						x		
WT-CS-09-028	2001580	01/03/2002		SSC						X		
WT-CS-09-029	2001581	01/03/2002		SS		x	X			X	X	X
WT-CS-09-030	2001582	01/03/2002		SS		x	X			x	X	x
WT-CS-09-031	2001583	01/03/2002		SS		x	x			x	X	x
WT-CS-09-032	2001584	01/03/2002		SS		x	x			X	X	x
WT-CS-09-033	2001585	01/03/2002		SS		x	x			x	X	X
WT-CS-09-034	2001586	01/03/2002		SS		x	X			X	X	x
WT-CS-09-035	2001587	01/03/2002		SS		x	x			x	X	x
WT-CS-09-036	2001588	01/03/2002		SS		x	X			X	X	x
WT-CS-09-037	2001589	01/03/2002		SS		x	x			x	X	x
WT-CS-09-038	2001590	01/03/2002		SS		x	x			x	X	x
WT-CS-09-039	2001591	01/03/2002		SS		x	x			x	X	x
WT-CS-09-040	2001592	01/03/2002		SS		x	x			x	X	x
WT-CS-09-041	2001593	01/03/2002		SS		x	X			x	X	x
WT-CS-09-042	2001594	01/03/2002		SS		x	x			x	X	x
WT-CS-09-043	2001595	01/03/2002		SS		x	x			x	X	x
WT-CS-09-044	2001596	01/03/2002		SS		x	x			x	X	x
WT-CS-09-045	2001597	01/03/2002		SS		x	x			X	X	x
WT-CS-09-046	2001598	01/03/2002		SS		x	x			x	X	x
WT-CS-09-047	2001665	01/10/2002		SSC						x		

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
REMEDIAL ACTION REPORT - WILLOW BROOK AND WILLOW BROOK POND

Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-09-048	2001666	01/10/2002		SSC						x		
WT-CS-09-049	2001667	01/10/2002		SS		x	x			x	X	x
WT-CS-09-050	2001668	01/10/2002		SS			x					
WT-CS-09-051	2001755	01/24/2002		SSC						x		
WT-CS-09-052	2001756	01/24/2002		SS		x	x			X	X	X
WT-CS-09-053	2001757	01/24/2002		SSC						x		
WT-CS-09-054	2001758	01/24/2002		SS		x	x			x	X	x
WT-CS-09-055	2001789	01/29/2002		SSC						x		
WT-CS-09-056	2001790	01/29/2002		SS		x	x			x	X	X
WT-CS-09-057	2001791	01/29/2002		SSC						x		
WT-CS-09-058	2001792	01/29/2002		SS		x	X			X	XS	X
WT-CS-09-059	2001793	01/29/2002		SSC						X		
WT-CS-09-060	2001794	01/29/2002		SS		x	X			X	X	X
WT-CS-09-061	2001795	01/29/2002		SSC						X		
WT-CS-09-062	2001796	01/29/2002		SS		x	X			X	X	X
WT-CS-09-063	2001804	01/30/2002		SSC						x		
WT-CS-09-064	2001805	01/30/2002		SS		x	x			x	X	x
WT-CS-09-065	2002405	05/17/2002		SSC						x		
WT-CS-09-066	2002407	05/22/2002		SSC						X		
WT-CS-09-067	2002408	05/22/2002		SS		x	x			x	X	x
WT-CS-09-068	2002409	05/22/2002		SSC						X		
WT-CS-09-069	2002410	05/22/2002		SS		x	X			X	X	X
WT-CS-09-070	2002411	05/22/2002		SSC						X		
WT-CS-09-071	2002412	05/22/2002		SS		x	X			X	X	X
WT-CS-09-072	2002439	05/29/2002		SSC						x		
WT-CS-09-073	2002452	05/30/2002		SSC						x		
WT-CS-09-074	2002453	05/30/2002		SSC						x		
WT-CS-09-075	2002454	05/30/2002		SSC						x		
WT-CS-09-076	2002463	05/30/2002		SSC						X		
WT-CS-09-077	2002464	05/30/2002		SS		X	X			X	X	X
WT-CS-09-078	2002465	05/30/2002		SSC						X		
WT-CS-09-079	2002466	05/30/2002		SS		x	X			X	X	X

Legend: x - mass, t - TCLP, s - SPLP, e - EPTOX, z - ZHE, d - Thermal Desorption, r - Charcoal Tube, a - SEM/AVS, f - filtered, nr - not received; Capitalized - at least one analyte in class detected

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Table 6-5
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION FOR CONFIRMATORY SAMPLES IN LOWER WILLOW BROOK POND
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Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-09-080	2002467	05/30/2002		SSC						X		
WT-CS-09-081	2002468	05/30/2002		SS		x	x			X	X	X
WT-CS-09-082	2002469	05/30/2002		SSC						x		
WT-CS-09-083	2002470	05/30/2002		SS		x	X			X	X	X
WT-CS-09-084	2002471	05/30/2002		SSC						X		
WT-CS-09-085	2002472	05/30/2002		SS		x	X			X	X	X
WT-CS-09-086	2002473	05/30/2002		SSC						X		
WT-CS-09-087	2002474	05/30/2002		SS		x	X			X	X	X
WT-CS-09-088	2002475	05/30/2002		SSC						X		
WT-CS-09-089	2002476	05/30/2002		SS		x	X			X	X	X
WT-CS-09-090	2002477	05/30/2002		SSC						X		
WT-CS-09-091	2002478	05/30/2002		SS		x	X			X	X	X
WT-CS-09-091	2002479	05/30/2002		SS		x	X			X	X	X
WT-CS-09-092	2002480	05/30/2002		SSC						X		
WT-CS-09-093	2002481	05/30/2002		SS		x	X			X	X	X
WT-CS-09-094	2002482	05/30/2002		SSC						X		
WT-CS-09-095	2002483	05/30/2002		SS		x	X			X	X	X
WT-CS-09-096	2002484	05/30/2002		SSC						X		
WT-CS-09-097	2002485	05/30/2002		SS		x	X			x	X	x
WT-CS-09-098	2002486	05/30/2002		SSC						X		
WT-CS-09-099	2002487	05/30/2002		SS		x	X			X	X	X
WT-CS-10-001	2001787	01/29/2002		SSC						x		
WT-CS-10-001	2001788	01/29/2002		SSC						x		
WT-CS-10-002	2001806	01/30/2002		SSC						x		
WT-CS-10-009	2001835	02/07/2002		SSC						X		
WT-CS-10-010	2001836	02/07/2002		SS		x	x			x	X	x
WT-CS-10-011	2001837	02/07/2002		SSC						X		
WT-CS-10-012	2001838	02/07/2002		SS		x	X			X	X	X
WT-CS-10-013	2001839	02/07/2002		SSC						X		
WT-CS-10-014	2001840	02/07/2002		SS		x	X			X	X	X
WT-CS-10-016	2002519	06/13/2002		SS						X		
WT-CS-11-001	2001616	01/07/2002		SSC						x		

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-11-002	2001617	01/07/2002		SSC						x		
WT-CS-11-003	2001618	01/07/2002		SSC						x		
WT-CS-11-004	2001619	01/07/2002		SSC						x		
WT-CS-11-005	2001620	01/07/2002		SS		x	x			x	X	x
WT-CS-11-006	2001621	01/07/2002		SSC						X		
WT-CS-11-007	2001622	01/07/2002		SS		x	x			x	X	x
WT-CS-11-008	2001623	01/07/2002		SSC						x		
WT-CS-11-009	2001624	01/07/2002		SS		x	x			x	X	x
WT-CS-11-012	2001653	01/09/2002		SSC						x		
WT-CS-11-013	2001654	01/09/2002		SSC						x		
WT-CS-11-014	2001655	01/09/2002		SSC						X		
WT-CS-11-015	2001656	01/09/2002		SSC						x		
WT-CS-11-016	2001657	01/09/2002		SS		x	x			x	X	x
WT-CS-11-017	2001658	01/09/2002		SSC						x		
WT-CS-11-018	2001659	01/09/2002		SS		x	x			x	X	x
WT-CS-11-019	2001660	01/09/2002		SSC						x		
WT-CS-11-020	2001661	01/09/2002		SS		x	x			x	X	x
WT-CS-11-021	2001662	01/09/2002		SS						X		
WT-CS-11-022	2001663	01/09/2002		SS		x	x			X	X	x
WT-CS-11-024	2001673	01/14/2002		SSC						X		
WT-CS-11-025	2001674	01/15/2002		WOOD						X		
WT-CS-11-026	2001675	01/15/2002		WOOD						X		
WT-CS-11-027	2001676	01/15/2002		WOOD						X		
WT-CS-11-027	2002431	05/29/2002		WOOD						x		
WT-CS-11-027	2002456	05/29/2002		WOOD						x		
WT-CS-11-028	2001677	01/15/2002		WOOD						X		
WT-CS-11-028	2002430	05/29/2002		WOOD						x		
WT-CS-11-029	2001678	01/15/2002		WOOD						X		
WT-CS-11-029	2002428	05/24/2002		WOOD						x		
WT-CS-11-030	2001679	01/15/2002		WOOD						x		
WT-CS-11-031	2001680	01/15/2002		WOOD						X		
WT-CS-11-032	2001681	01/15/2002		WOOD						X		

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Loureiro Engineering Associates, Inc.

Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-11-032	2001682	01/15/2002		WOOD						X		
WT-CS-11-032	2002426	05/24/2002		WOOD						x		
WT-CS-11-033	2001683	01/15/2002		WOOD						x		
WT-CS-11-034	2001684	01/15/2002		WOOD						x		
WT-CS-11-035	2001685	01/15/2002		WOOD						X		
WT-CS-11-035	2002427	05/24/2002		WOOD						x		
WT-CS-11-036	2001686	01/15/2002		WOOD						x		
WT-CS-11-037	2001687	01/15/2002		WOOD						x		
WT-CS-11-038	2001688	01/15/2002		WOOD						X		
WT-CS-11-039	2001700	01/16/2002		SSC						X		
WT-CS-11-040	2001701	01/16/2002		SSC						x		
WT-CS-11-041	**2001702**	**01/16/2002**		**SSC**						**X**		
WT-CS-11-042	**2001703**	**01/16/2002**		**SS**		**x**	**x**			**x**	**X**	**x**
WT-CS-11-045	**2001713**	**01/16/2002**		**WIPE**						**X**		
WT-CS-11-046	2001714	01/16/2002		WIPE						X		
WT-CS-11-047	2001715	01/16/2002		WIPE						x		
WT-CS-11-047	2001716	01/16/2002		WIPE						x		
WT-CS-11-048	2001721	01/18/2002		SSC						x		
WT-CS-11-049	2001722	01/18/2002		SS		x	X			x	X	X
WT-CS-11-050	2001723	01/18/2002		SSC						X		
WT-CS-11-051	2001724	01/18/2002		SS		x	X			X	X	X
WT-CS-11-052	2001725	01/18/2002		SSC						X		
WT-CS-11-053	2001726	01/18/2002		SSC						x		
WT-CS-11-054	2001739	01/22/2002		WOOD						x		
WT-CS-11-055	2001740	01/22/2002		WOOD						X		
WT-CS-11-055	2002429	05/24/2002		WOOD						X		
WT-CS-11-056	2001741	01/22/2002		WIPE						X		
WT-CS-11-057	2001742	01/22/2002		WIPE						X		
WT-CS-11-058	2001743	01/22/2002		WIPE						X		
WT-CS-11-059	2001744	01/22/2002		WIPE						X		
WT-CS-11-060	2001745	01/22/2002		WIPE						X		
WT-CS-11-061	2001746	01/22/2002		WIPE						X		

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Sample Information					Analysis Information							
Location ID	Sample ID	Sample Date	Sampled Interval (ft)	Sample Class	LEAVolatiles	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Miscellaneous Analyses
WT-CS-11-062	2001747	01/22/2002		WIPE						X		
WT-CS-11-063	2001748	01/22/2002		WIPE						X		
WT-CS-11-064	2001751	01/23/2002		SSC						X		
WT-CS-11-065	2001752	01/23/2002		SS						X		X
WT-CS-11-066	2001753	01/23/2002		SSC						X		
WT-CS-11-067	2001754	01/23/2002		SS						x		
WT-CS-11-068	2001936	02/21/2002		WIPE						X		
WT-CS-11-069	2001937	02/21/2002		WIPE						X		
WT-CS-11-070	2001938	02/21/2002		WIPE						X		
WT-CS-11-071	2001939	02/21/2002		WIPE						X		
WT-CS-11-072	2001940	02/21/2002		WIPE						X		
WT-CS-11-073	2001941	02/21/2002		WIPE						X		
WT-CS-11-074	2001942	02/21/2002		WIPE						X		
WT-CS-11-075	2001943	02/21/2002		WIPE						X		
WT-CS-11-076	2001977	03/12/2002		CC						x		
WT-CS-11-077	2001978	03/12/2002		CC						X		
WT-CS-11-078	2001979	03/12/2002		CC						X		
WT-CS-11-079	2002508	06/13/2002		WIPE						x		
WT-CS-11-080	2002509	06/13/2002		WIPE						X		
WT-CS-11-081	2002510	06/13/2002		WIPE						X		
WT-CS-11-082	2002511	06/13/2002		WIPE						X		
WT-CS-11-082	2002512	06/13/2002		WIPE						x		
WT-CS-11-083	2002514	06/13/2002		WIPE						X		
WT-CS-11-084	2002515	06/13/2002		WIPE						X		
WT-CS-11-085	2002516	06/13/2002		WIPE						X		
WT-CS-11-086	2002517	06/13/2002		WIPE						X		

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